

NEC ESMPRO Agent Ver. 4.6 User's Guide (Linux)

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Notations Used in This Document

Notations used in the text

In addition to safety-related symbols urging caution, three other types of notations are used in this document. These notations have the following meanings.

Important	bortant Indicates critical items that must be followed when handling operating software.	
Note	Indicates items that must be confirmed when handling operating software.	
Tips	Indicates information that is helpful to keep in mind when using this software.	

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NEC ESMPRO Agent Ver. 4.6

Products Overview

This chapter explains products overview of NEC ESMPRO Agent.

Products Overview

NEC ESMPRO Manager and NEC ESMPRO Agent are software packages for server management aimed at the stable operation and the efficient management of servers. This software tracks configuration information and operation statuses of the server resources, detects server failures, and reports the alert to the system administrator, to prevent or quickly respond to such failures.

Importance of server management

To ensure stable server operations, you need to reduce the workload for server management.

Stable server operations

Server shutdowns directly lead to a loss of your business opportunities and profits. Therefore, you always need to ensure complete operations. In case of a server failure, you will have to notice it as early as possible to track down the cause and take necessary measures. If you quickly recover the system from the failure, you'll be able to minimize profit (cost) losses.

Reduction of the workload for server management

It takes a large workforce to manage servers, especially in a large system or when using servers in a remote location. Reduction of the workload for server management leads to cost reduction.

What are NEC ESMPRO Manager and NEC ESMPRO Agent?

NEC ESMPRO Manager and NEC ESMPRO Agent are server management software packages that manage and monitor servers on the network. If you introduce this software, you will be able to obtain/manage/monitor information on configuration, performance, and failures. In addition, you will be able to notice a failure by notification from the reporting function on a real-time basis.

Effectiveness of NEC ESMPRO Manager and NEC ESMPRO Agent

NEC ESMPRO Manager and NEC ESMPRO Agent are very effective for various needs within a system environment that is getting increasingly diversified and complicated.

Detection of server failures

NEC ESMPRO Agent collects a variety of failure information and checks system statuses. When it detects abnormality, it reports the alert to NEC ESMPRO Manager.

Prevention of server failures

As preventive measures, NEC ESMPRO Agent supports a preventive maintenance function that predicts failure occurrences. NEC ESMPRO Agent can detect a temperature increase inside cabinets, free space of file system and hard disk drive degradation at early stage.

Management of server operating statuses

NEC ESMPRO Agent obtains detailed information on hardware and performance of server. You can access the information from anywhere via NEC ESMPRO Manager.

Central management of distributed servers

NEC ESMPRO Manager offers GUI interfaces that allow you to efficiently manage servers distributed on a network.



NEC ESMPRO Agent Ver. 4.6

Monitoring Features

This chapter explains monitoring features of NEC ESMPRO Agent.

- 1. Monitoring Setting
- 2. General Properties
- 3. CPU Load Monitoring
- 4. Syslog Monitoring
- 5. Storage Monitoring
- 6. File System Monitoring
- 7. Network (LAN) Monitoring
- 8. OS Stall Monitoring
- 9. Shutdown Monitoring
- 10. Shared Sensor Monitoring

1. Monitoring Setting

This section explains the monitoring function that NEC ESMPRO Agent offers. To change the setting of each monitoring function, use Control Panel (ESMagntconf). There is the case that Mylex is displayed by Control Panel, but does not monitoring it. "Storage Monitoring" is unsupported in Fault-Tolerant Server.

Tips

Do not start Control Panel from plural consoles. It cannot start from the console which it executed later.

Method of starting Control Panel (ESMagntconf)

- 1. Log in to the system as the root user.
- 2. Move to the directory where Control Panel is stored.
 - # cd /opt/nec/esmpro_sa/bin/
- 3. Start Control Panel.
 - # ./ESMagntconf



The main screen of Control Panel (ESMagntconf)

2. General Properties

Functions

From NEC ESMPRO Manager, You can use setting using SNMP, the setting of the Shutdown / Reboot, the setting of the community name to use, the registration of the rack name with the rack mount model, a housing identification function.

Settings

With the screen which you choose "General" of Control Panel (ESMagntconf), and is displayed [General Properties], setting is possible.

General Properties	
SNMP Setting [*] Enable the Manager to modify SNMP Setting [] Enable Remote Shutdown / Reboot	
SNMP Community public	
Rack Setting	
Rack Name	
Chassis Identify <mark>(Start)</mark> (Stop)	
ok Cancel	

Enable the Manager to modify SNMP Setting

"Enable the Manager to modify SNMP Setting" specifies whether NEC ESMPRO Manager can modify server operation parameters via SNMP.

When checked, it is enabled. When not checked, it is disabled.

Push the space key.

Enable Remote Shutdown/Reboot

"Enable Remote Shutdown/Reboot" specifies whether NEC ESMPRO Manager can perform a remote Shutdown or Reboot. When checked, it is enabled.

When not checked, it is disabled. This field is inactive when "Enable the Manager to modify SNMP Setting" is not checked. Push the space key.

SNMP Community

Select the community name that NEC ESMPRO Agent uses to collect information on the local machine and it send SNMP Trap. The community name displayed in the list is the community name registered in SNMP configuration file (snmpd.conf). Select using "UP/DOWN" arrow keys.

Select the community name that has at least the privilege to "read" or "read write" from localhost. The "read" authority becomes the same state when it make "Enable the Manager to modify SNMP Setting" setting not to enable, and it is not possible for the threshold changes from NEC ESMPRO Manager to this plane.

Rack Name

The rack name can be set when the server is a rack mount type. It is possible to manage each rack by setting the rack name. The maximum length of the rack name is 63 characters, and you can use A-Z, a-z, 0-9, '.', '_' or '-'. Because the rack name acquires a value from EM card at the age of a device mounted with EM card, you cannot change a value by this setting.

Chassis Identify

When you press [start] button, "chassis identify" function (ID lamp blinking or lighting) is started. When you press [Stop] button, "chassis identify" function is stopped.

[ok]

Settings are saved and this screen closes.

[cancel]

3. CPU Load Monitoring

Functions

When NEC ESMPRO Agent detects a high-loaded CPU, it will issue a message to syslog and will report the alert to NEC ESMPRO Manager. You can check which CPU has unusual usage when you refer to NEC ESMPRO Manager. Since the function monitors load statuses either by individual CPUs or CPU total, you can monitor a server as one package regardless of the individual CPUs.

CPU load monitoring is not performed at default settings. If you need to monitor CPU load, change the settings to perform monitoring. You do not have to change threshold values of CPU load rates. Although you may specify any values, the threshold values near the current values could cause the agent to issue alerts frequently. When you change CPU load values, be careful not to cause alerts to be issued frequently due to the setting of the values.

Default values are as follows.

Sample Interval(s): 10 Utilization Rate: Load for 1 min

It acquire the utilization at the point in time every monitoring every a certain ten seconds and compare the mean [6 (counts) = 60 (seconds of utilization) / 10 (seconds of interval)] targeted for monitoring of one minute with the threshold as "current utilization". It perform the comparison between "current utilization" and threshold every the monitoring that it set every a certain ten seconds and report it to a state (normal / warning / abnormality) when there was a change. When it change the monitoring object from 1 "Load for min" to 5 "Load for min", it do the mean [30 (counts) = 300 (seconds of utilization) / 10 (seconds of interval)] targeted for monitoring of one minute with "current utilization" and compare it with the threshold.

Settings

From [CPU Load] screen, you can set the following information. To display [CPU Load] screen, select "CPU" on Control Panel (ESMagntconf).

CPU Prop	erties ———
Sample Interval(s) Utilization Rate	10 Load for 1 min
CPU's Item	TOTAL
[] Enable Threshol Fatal(%) Warning(%)	d Report Reset 10097 9592
ok	

Sample Interval(s)

Specify CPU load monitoring cycle.

Sample Interval can be set to 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, or 60 seconds. Select using "UP/DOWN" arrow keys.

Default value is 10 seconds.

Utilization Rate

Specify the utilization rate of CPU load monitoring. Utilization Rate can be set to Load for 1 min, 5 min, 30 min, 1 hour, 1 day, or 1 week. Select using "UP/DOWN" arrow keys. Default value is 1 minute.

CPU's Item

Select CPU (individual or total CPU) for which you want to set the threshold, using "UP/DOWN" arrow keys.

Enable Threshold

To enable the monitoring function of CPU load factor, check this field.

Push the space key.

The threshold can be set only when checked.

Threshold

Set the warning and fatal thresholds.

It is necessary to satisfy the following big things and small things relations with integer value from 0 to 100.

Fatal (Report) > Fatal (Reset) > Warning (Report) > Warning (Reset)

Default values of warning and fatal thresholds are as follows.

Monitoring Item	Fatal(Report)	Fatal(Reset)	Warning(Report)	Warning(Reset)
CPU load factor (%)	100	97	95	92

[ok]

Settings are saved and this screen closes.

[cancel]

4. Syslog Monitoring

Functions

When a set keyword is recorded in a syslog ("/var/log/messages"), Syslog Monitoring function reports an alert to NEC ESMPRO Manager. Syslog Monitoring Event comes by additional / deletion by a new source depending on system environment, a monitoring event other than a monitoring event registering at the time of NEC ESMPRO Agent installation beforehand. Refer to chapter 3 "5.Syslog Events Setting" for how to add/delete Syslog Monitoring Event.

Default Monitoring Object

syslog to be targeted for monitoring is only "/var/log/messages", a change cannot add it. In addition, the file name after logrotate targeted for monitoring is as follows.

"dateext" is not defined by /etc/logrotate.conf : /var/log/messages.n [n=1, 2, 3 ...]
"dateext" is defined by /etc/logrotate.conf : /var/log/messages-YYYYMMDD

It cannot monitor by Syslog Monitoring function at time except the above file name.

If "compress" is defined by /etc/logrotate.conf, it cannot monitoring by Syslog Monitoring function because after logrotate file is not text.

With Red Hat Enterprise Linux 6, "dateext" is defined with an existing set price.

With SUSE Linux Enterprise Server, "compress" and "dateext" are defined with an existing set price. With Red Hat Enterprise Linux 7, "dateext" is defined with an existing set price. "compress" is not defined, but file (messages-YYYYMMDD) which Ro Tate did before one of the files which Ro Tate does is compressed by gz form (messages-YYYYMMDD.gz). Therefore Syslog Monitoring cannot monitoring it. But Syslog Monitoring do not influence it because Syslog Monitoring watch a syslog before becoming the gz form when NEC ESMPRO Agent does not stop.



Custom Monitoring Object

You can add the targeted for monitoring file which does not include "/var/log/messages" character string one. By the timing of the monitoring interval, chronological order may reverse to check an additional monitoring file after having checked /var/log/messages.

It becomes only a file output with a format same as a syslog and does not watch the first bank of the monitoring relevant file.

%b %d %H:%M:%S %HOSTNAME% %MESSAGE%

%b (Jan to Dec) %d (1 to 31) %H (00 to 23):%M (00 to 59):%S (00 to 59)

HOSTNAME% %MESSAGE%

In addition, the file name after rotate targeted for additional monitoring is file name .n.

When it appoints the file which logrotate does, in the timing divided by the change of the file name of the log, it may not watch an additional monitoring relevant file in the latter half part. In the case of /var/log/vmkernel, it supports a file name after logrotate.

File Monitoring Object

You can add the targeted for monitoring file which does not include "/var/log/messages" character string one. By the timing of the monitoring interval, chronological order may reverse to check a file monitoring file after having checked /var/log/messages and an additional monitoring file. In addition, because it does not support it about a file name after logrotate, in the timing divided by the change of the file name of the log, it may not watch a file monitoring relevant file in the latter half part. The format of the file monitoring relevant file does not have the designation.

Settings

From [Syslog Properties] screen, you can set the following information.

To display [Syslog Properties] screen, select "Syslog" on Control Panel (ESMagntconf).

Monitor Interval

Specify the monitoring interval of Syslog Monitoring. Range is 10 to 3600 seconds.

Default value is 300 seconds.

Default Monitoring Object

A change from "/var/log/messages", the deletion are not possible. Refer to "Default Monitoring Object" in the Functions of "4. Syslog Monitoring" for the details.

Custom Monitoring Object

Set the monitoring object which does not include "/var/log/messages" character string with the absolute pass which becomes with less than 255 bytes of length of the pass.

The setting in the relative path is not possible. The format of the monitoring target file does same as syslog. Refer to "Custom Monitoring Object" in the Functions of "4. Syslog Monitoring" for the details. The existing set price is a blank, and the additional monitoring object is not set.

File Monitoring Object

Set the monitoring object which does not include "/var/log/messages" character string with the absolute pass which becomes with less than 255 bytes of length of the pass.

The setting in the relative path is not possible. The format of the monitoring target file does not have designation. Refer to "File Monitoring Object" in the Functions of "4. Syslog Monitoring" for the details. The existing set price is a blank, and the additional monitoring object is not set.

[ok]

Settings are saved and this screen closes.

[cancel]

5. Storage Monitoring

Note

Functions

When the storage monitoring function detects the error of the hard disk drive using S.M.A.R.T. function (Self-Monitoring, Analysis and Reporting Technology) of the hard disk drive, It record the information that detected an error to a syslog and do an alert report to NEC ESMPRO Manager. With S.M.A.R.T. function, when each hard disk drive managed the data about the trouble inside and judged it to break down in the near future, hard disk drive oneself is a function to notify of an error. Each hard disk drive maker uses the threshold suitable for a hard disk drive made in the company for a preventive maintenance judgment. The monitoring object is only a simple substance hard disk drive and does not watch the storage devices such as RAID constitution, FC, USB.

(ESMstrg) of the storage monitoring stops a process when a monitoring object does not exist. ESMstrg record the following messages in a syslog on this occasion. ESMstrg: ESMstrg is not supported. Exit. When ESMstrg starts when a monitoring object does not exist, please list a storage device of array constitution and the FC connection used for "the outside configuration file targeted for storage monitoring". < Setting procedure > With reference to /proc/scsi/scsi, it add a postscript to Vendor and Model in [Management Port] of /opt/nec/esmpro sa/data/noscsi.inf. List it above [Diagnostic Port]. [Example] /proc/scsi/scsi Host: scsi1 Channel: 00 Id: 00 Lup: 00 Vendor: ABC Model: ABC-MODEL Rev: 0001 Type: Direct-Access ANSI SCSI revision: 04 /opt/nec/esmpro sa/data/noscsi.inf [Management Port] Vendor:NEC Model:DS450 Vender:DGC Model Model: ABC-MODEL Vendor: ABC [Diagnostic Port] Vendor:DGC Model: After having added a postscript to the above, you execute the following commands in root user and reboot NEC ESMPRO Agent service. # /opt/nec/esmpro_sa/bin/ESMRestart

It confirm yes or no targeted for monitoring at the time of start, and process

Settings

From [Storage Properties] screen, you can change Sample Interval of Storage Monitoring Service, mode of hard disk drive pre-failure prediction function, and can reset the status of an exchanged hard disk drive.

To display [Storage Properties] screen, select "Storage" on Control Panel (ESMagntconf).



Sample Interval(s)

Specify the sampling interval. Range is 1 to 3600 seconds. Default value is 60 seconds.

[Default]

When you press [Default], the sample interval will be set to default value.

HD Pre-failure Prediction

To enable the monitoring function of HD Pre-failure Prediction, check this field. Push the space key. This field is checked by default. You cannot set the mode of each hard disk drive individually. All hard disks drive work in the same mode with the mode of hard disk drive pre-failure prediction turned on or off.

Reset Status Device (HD)

Select a hard disk drive that needs to be reset, using "UP/DOWN" arrow keys.

[Reset Status]

Reset the status information of the hard disk drive selected in "Device (HD)". It is inside information about this function to reset and, for a disk drive targeted for monitoring, does not make a note.

Note

The storage monitoring function manages the state of the hard disk drive on performing the preventive maintenance of the hard disk drive. Therefore reset the management information of the hard disk drive by manual operation when you changed a hard disk drive.

[ok]

Settings are saved and this screen closes.

[cancel]

6. File System Monitoring

Functions

When File System Monitoring function detects space capacity lack of file system mounted by a system, this function does an alert report to a syslog to record and NEC ESMPRO Manager of the detection information. You can confirm a short mount point of the space capacity when you refer to NEC ESMPRO Manager.

When it meets all the following conditions, File System Monitoring function is targeted for monitoring. - In the case of the following file system device types^{*1}.

ide, rd, sd, sr, md, ramdisk, dac960, DAC960, device-mapper, dd, blkext, virtblk

*1 The device type identifies mount point (/etc/mtab), judges a device type from disk I/O information (/proc/diskstats) and block device (/proc/devices). The mount point is based in order of /etc/mtab. When it does bind mount, this is given priority to information of bind mount. In the following examples, the device type of sda1 and sda2 is "sd". /home of sda3 is bind mount, and

```
a file system type becomes "none". It becomes out of a monitoring object.
```

[/etc/mtab extract]

```
/dev/sda1 /boot ext3 rw 0 0
```

```
/dev/sda2 / ext3 rw 0 0
```

/dev/sda3 /home ext3 rw 0 0 $\,$

/home /home none rw,bind 0 0

[/proc/diskstats extract]

8 1 sda1 127 984 13844 331 6 1 14 496 0 770 827

```
8 2 sda2 24361 15137 1112602 115034 10027 25261 282312 195758 0 47660 310799
```

[/proc/devices extract]

```
Block devices:
```

```
1 ramdisk
```

```
8 sd
```

- In the case of the following file system types.

```
affs, coda, ext, ext2, ext3, ext4, hfs, hpfs, jfs, minix, msdos, ntfs, reiserfs, sysv, ufs, umsdos, vfat, xfs, xiafs
```

The movement of the following file system has been inspected.

ext2, ext3, ext4, jfs, minix, msdos, ntfs, reiserfs, vfat, xfs

The movement of the following file system is non-inspection. Because a kernel supporting is included in the old file system and has been inspected movement in the past version, these are targeted for monitoring logically.

affs, coda, ext, hfs, hpfs, sysv, ufs, umsdos, xiafs

- When capacity of the file system is more than 100MB.

Settings

From [File System] screen, you can set the following information.

To display [File System] screen, select "File System" on Control Panel (ESMagntconf).



Sample Interval(s)

Specify the sampling interval. Range is 1 to 3600 seconds. Default value is 60 seconds.

[Default]

When you press [Default], the sample interval will be set to default value.

Filesystem

Select a file system to change threshold and/or monitoring mode, using "UP/DOWN" arrow keys.

Disable Threshold

When checked, the free space of the file system is not monitored. Set using space key.

Enable Threshold (The amount of free bytes)

When checked, the free space of the file system is monitored. Set using space key. The threshold can only be set when checked. This field is checked by default.

Threshold

Set the warning and fatal thresholds.

It is necessary to satisfy the following big things and small things relations.

All capacity > Warning > Fatal > 0

Default values of warning and fatal thresholds are as follows.

[Default]

When you press [Default], the thresholds will be set to default value.

Monitoring Item	Fatal	Warning
Free space (unit: MB)	1 percent of the capacity	10 percent of the capacity

Settings are saved and this screen closes.

[cancel]

7. Network (LAN) Monitoring

Functions

The network (LAN) monitoring function reports an alert to record and NEC ESMPRO Manager of the detection information to a syslog at time beyond the threshold that a destruction packet and the error packet that occurred during a monitoring interval were set. After having detected abnormality, it does not have any problem when it recover immediately, but disperse with the load of confirmation and the network of the network environment that the hardware included when time and the abnormality that were not restored occur frequently.

Because the network (LAN) monitoring function judges an error from a ratio for transmission and reception number of packets caused during a monitoring interval, the network (LAN) monitoring function sometimes detects it by temporary network load. Therefore, default of the monitoring setting is invalid NEC ESMPRO Agent Ver.4.3 or later.

- When you validate network (LAN) monitoring, start with the setting change of ESMIan.

```
[Case except Red Hat Enterprise Linux 7]
```

- # /sbin/chkconfig --level 35 ESMlan on
- # /etc/init.d/ESMlan start

[Case of Red Hat Enterprise Linux 7]

- # systemctl enable ESMlan.service
- # systemctl start ESMlan.service

- When you invalidate network (LAN) monitoring, stop with the setting change of ESMIan.

[Case except Red Hat Enterprise Linux 7]

- # /sbin/chkconfig ESMlan off
- # /etc/init.d/ESMlan stop

[Case of Red Hat Enterprise Linux 7]

- # systemctl disable ESMlan.service
- # systemctl stop ESMlan.service

Settings

From [LAN Properties] screen, you can set the following information.

To display [LAN Properties] screen, select "LAN" on Control Panel (ESMagntconf).

LAN Properties -	
Sample Interval(s)	1 <mark>80</mark>
Network Hardware Error(%)	50
Transmission Retry(%)	35
Transmission Abort(%)	35
ok	

Sample Interval(s)

Specify the sampling interval. Range is 1 to 3600 seconds. Default value is 180 seconds.

Network Hardware Error (%)

Specify the threshold of the percentage of Network Hardware error in total transmission and reception packets per monitoring cycle. Specify 0 when you want a report as soon as the error is detected. When the network cable is pulled out or HUB power switch is off, a Network Hardware error occurs. Each error occurs for the following reasons.

Error	Reason
Alignment Errors	Broken packets for collision
FCS Errors	Broken packets for collision
Carrier Sense Errors	Cable disconnected, Cable defect, or Transceiver defect

Range is 0 to 100 percent. Default value is 50 percent.

Transmission Retry (%)

Specify the threshold of the percentage of collision and delay packets in total transmission packets per monitoring cycle. Transmission Retry will occur when the server is under the high network load. Range is 10 to 50 percent. Default value is 35 percent.

Transmission Abort (%)

Specify the threshold of the percentage of packets disposed due to excess collisions errors, etc., in total transmission packets per monitoring cycle. Transmission Abort will occur when the server is under the high network load. Range is 10 to 50 percent. Default value is 35 percent.

[ok]

Settings are saved and this screen closes.

[cancel]

8. OS Stall Monitoring

Functions

OS stall monitoring function watches the movement situation of OS by a server management driver updating Watch-dog timer (timer for software stall monitoring) regularly. When Watch-dog timer is not updated, a timer becomes the time-out and judges it with the state that OS stops and does movement setting for "Action When Timeout". It does movement setting for "Action After Timeout" afterwards. For the state that OS stops, NEC ESMPRO Agent cannot work in real time. Therefore, it detects that a stall occurred at the time of next system start and report an alert to record and NEC ESMPRO Manager of the detection information to a syslog. From Control Panel (ESMagntconf), you can change the setting that a server management driver uses.

Tips

When "mainte" is displayed by Ismod command, it shutdown using a server management driver and watch it. Set this chapter. Refer to chapter 4 "1. OS Stall Monitoring by using OpenIPMI" for OS stalls monitoring setting procedure and the support OS using OpenIPMI.

Settings

From [WDT Properties] screen you can set the following information.

To display [WDT Properties] screen, select "WDT" on Control Panel (ESMagntconf).

WDT Pr	operties
[<mark>*</mark>] Enable Monitor	
Timeout(s)	300
Interval(s)	30
Action When Timeout	none
Action After Timeout	none
ok	cancel

Enable Monitor

To enable OS stall monitoring function by Watch-dog timer, check this field. Set using space key. This field is checked by default.

Timeout(s)

Specify Watch-dog timer timeout. Range is 90 to 600 seconds. Default value is as follows.

For RHEL5, RHEL6, AXS3: 300 seconds.

For other OS: 180 seconds.

Interval(s)

Specify Watch-dog timer reset interval. Range is 30 to 60 seconds. Default value is 30 seconds. When the timeout is 180 seconds and interval is 30 seconds, timeout occurs between 150 seconds and 180 seconds.

Action When Timeout

Specify "Action When Timeout", using "UP/DOWN" arrow keys.

none	Dose nothing.	
NMI	NMI occurs.	

*NMI: Non-maskable Interrupt - the highest-priority interrupt.

Default value is as follows.

For RHEL5, RHEL6, AXS3 : none

For other OS : NMI

Action After Timeout

Specify "Action After Timeout", using "UP/DOWN" arrow keys.

none	Dose nothing.
Hard Reset	The system is reset and tries to reboot.
Power Down	Powers off the system.
Power Cycle	Powers off the system once and on again.

Default value is "none".

[ok]

Settings are saved and this screen closes.

[cancel]

9. Shutdown Monitoring

Functions

Shutdown Monitoring function watches time from start of shutdown to power-off/reset processing by a server management driver updating Watch-dog timer (timer for software stall monitoring). When Watch-dog timer is not updated, a timer becomes the time-out and judges it with the state that OS stops and does movement setting for "Action When Timeout". It does movement setting for "Action After Timeout" afterwards. For the state that OS stops, NEC ESMPRO Agent cannot work in real time. Therefore, it detects that a stall occurred at the time of next system start and report an alert to record and NEC ESMPRO Manager of the detection information to a syslog. From Control Panel (ESMagntconf), you can change the setting that a server management driver uses.

Tips

When "mainte" is displayed by Ismod command, it shutdown using a server management driver and watch it. Set this chapter. Because a watch dog timer at the time of the shutdown cannot set the option as for OpenIPMI, this function becomes non-support in NEC ESMPRO Agent.

Settings

From [Shutdown Properties] screen you can set the following information.

To display [Shutdown Properties] screen, select "Shutdown" on Control Panel (ESMagntconf).

Shut down	Properties
[] Enable Monitor	
Timeout(s)	1800
Action When Timeout	none
Action After Timeout	Power Down
ok	cancel

Enable Monitor

To enable the shutdown monitoring function by Watch-dog timer, check this field. Set using space key. This field is not checked by default.

Timeout(s)

Specify the timeout. Range is 300 to 6000 seconds. Default value is 1800 seconds.

Action When Timeout

S	pecify "Action When	Timeout", using "UP/DOWN" arrow keys. Default v	alue is "NMI".
	none	Dose nothing.	

NMI	NMI occurs.

*NMI: Non-maskable Interrupt - the highest-priority interrupt.

Action After Timeout

Specify "Action After Timeout", using "UP/DOWN" arrow keys. Default value is "none".

none	Dose nothing.
Hard Reset	The system is reset and tries to reboot.
Power Down	Powers off the system.
Power Cycle	Powers off the system once and on again.

[ok]

Settings are saved and this screen closes.

[cancel]

IO. Shared Sensor Monitoring

Functions

When it detected an obstacle about the shared sensor, it performs message registration to syslog and a report to the manager. When it operate plural OS / NEC ESMPRO Agent in the same housing that there is a joint ownership sensor, it repeat, and a report is performed by the plural agents. You can restrain those reports by performing this setting.

In the server without the joint shared sensor, this setting item is not displayed. The obstacle report of the shared sensor is not performed when it invalidate the report from all agents. Set the report from one agent at least to shall remain in effect.

There are not Express5800/140Rf-4 and Express5800/R140a-4 to the shared sensor as hardware, but there are shared sensor and time to judge it so that there is information to show a shared sensor by Sensor Data Record (SDR) definition in the domain of PowerSupply sensor. [Shared Sensor] is displayed by Control Panel. The setting is not reflected.

Settings

From [Shared Sensor Properties] screen you can set the following information.

To display [Shared Sensor Properties] screen, select "Shared Sensor "on Control Panel (ESMagntconf).



Enable Shared Sensor Reporting

To enable the shared sensor monitoring function, check this enable. Set using space key. This field is checked by default.

[ok]

Settings are saved and this screen closes.

[cancel]



NEC ESMPRO Agent Ver. 4.6

Report Features

This chapter explains report features of NEC ESMPRO Agent.

- 1. Report Setting
- 2. Base Setting
- 3. Destination Setting
- 4. Agent Events Setting
- 5. Syslog Events Setting

1. Report Setting

This section explains the report setting for where and when an event is to be reported. To change the report setting, use Control Panel (ESMamsadm).

A method to report to a manager includes following three kinds.

- Manager (SNMP)

NEC ESMPRO Agent transmits original SNMP Trap (UDP Trap).

It can report it to a manager supporting SNMP Trap reception except NEC ESMPRO Manager.

- Manager (TCP_IP In-Band)

NEC ESMPRO Agent reports it to a manager using TCP/IP. When it does a reliable report, use it.

- Manager (TCP_IP Out-of-Band)

ThroughPoint to Point Protocol (PPP), NEC ESMPRO Agent reports it to a manager using TCP/IP like TCP_IP In-Band. Therefore, NEC ESMPRO Agent and NEC ESMPRO Manager exist in the distant place and use it when they report it to NEC ESMPRO Manager through a public line (Wide Area Network). In addition, a modem and phone line is necessary for both NEC ESMPRO Agent side and manager side to become the dial-up connection.

Method of starting Control Panel (ESMamsadm)

- 1. Log in to the system as the root user.
- 2. Move to the directory where Control Panel is stored.

cd /opt/nec/esmpro_sa/bin/

- 3. Start Control Panel.
 - # ./ESMamsadm

Report Setting	
Base Setting Destination ID Setting Agents Events Setting Syslog Events Setting	
close	

The main screen of Control Panel (ESMamsadm)

To report the alert by using SNMP as the report method

When NEC ESMPRO Agent was installed, the setting to report the alert by using SNMP as the report method for monitor events was almost completely established beforehand. The report preparation is completed by setting IP address of NEC ESMPRO Manager for the base setting. Refer to chapter 3 "2.1.1. Base Setting of Manager (SNMP)" for details of the setting.

To report the alert by using the report methods other than SNMP

Set it according to the following flows.

1) Perform Base Setting. (Base Setting)

Refer to chapter 3 "2.1.2. Base Setting of Manager (TCP_IP In-Band)" for the basic setting to report the alert by using TCP_IP In-Band as the report method.

Refer to chapter 3 "2.1.3. Base Setting of Manager (TCP_IP Out-of-Band)" for the basic setting to report the alert by using TCP_IP Out-of-Band as the report method.

2) Set the list of report destinations. (Destination Setting)

Refer to chapter 3 "3.1.1.Address Setting when Manager (TCP_IP In-Band) is used as a report method" for the address setting to report the alert by using TCP_IP In-Band as a report method. Refer to chapter 3 "3.1.2.Address Setting when Manager (TCP_IP Out-of-Band) is used as a report method" for the address setting to report the alert by using TCP_IP Out-of-Band as a report method.

3) Set monitor events and associate monitor events with report destinations. Agent Events are monitor events that NEC ESMPRO Agent originally detects. Refer to chapter 3 "4. Agent Events Setting" for the setting of Agent Events. Syslog Events indicate monitor events that Syslog Monitoring function detects. Refer to chapter 3 "5. Syslog Events Setting" for the setting of Syslog Events.

2. Base Setting

Functions

Here you set enabling/disabling reporting methods, trap destinations of Manager Report (SNMP), enabling/disabling the shutdown function in the event of an error, and waiting time before the shutdown. When you disable a reporting method, the method will not perform reporting for any monitoring items. When you disable the shutdown function, the remote shutdown function from NEC ESMPRO Manager will be disabled, and the shutdown/reboot function as the action after reporting will also be disabled.

Settings

Select "Base Setting" on Control Panel (ESMamsadm) and [Base Setting] screen opens.

Base Setting
Report
Manager(SNMP) Manager(TCP_IP In-Band) Manager(TCP_IP Out-of-Band)
Other
Shutdown Delay
close

Report

The list of report methods is displayed.

Other

The list of the other settings is displayed.

[close]

Close this screen.

2.1. Setting of Report Method

Enable/Disable reporting methods and set the trap destinations of Manager Report (SNMP).

2.1.1. Base Setting of Manager (SNMP)

Enable/Disable Manager Report (SNMP) and set the trap destinations for this method. Select "Manager (SNMP)" on [Base Setting] screen, then [SNMP Trap Setting] screen opens.

SNMP Trap Setting	
[<mark>*</mark>] Enable the function.	
Trap Destination IP:	
10.10.10.1	(Add >
	(Remove)
ok	

Enable the function

Enable/Disable Manager Report (SNMP). When checked, it is active. Set using space key. This field is checked by default.

Trap Destination IP

IP address setting a report earlier is displayed with a list. The address of Trap transmitting a message from NEC ESMPRO Agent does not use Trap Destination set in SNMP configuration files (snmpd.conf). It can set Trap Destination IP to up to 128.

[Add]

New IP address is added to "Trap Destination IP".

[Remove]

IP address selected from "Trap Destination IP" is deleted.

[ok]

Settings are saved and this screen closes.

[cancel]

2.1.2. Base Setting of Manager (TCP_IP In-Band)

Enable/Disable Manager Report (TCP_IP In-Band).

Select "Manager (TCP_IP In-Band)" on [Base Setting] screen and [Enable/Disable] screen opens.



Enable the function

Enable/Disable Manager (TCP_IP In-Band). When checked, it is active. Set using space key.

[ok]

Settings are saved and this screen closes.

[cancel]

2.1.3. Base Setting of Manager (TCP_IP Out-of-Band)

Enable/Disable Manager Report (TCP_IP Out-of-Band).

Select "Manager (TCP_IP Out-of-Band)" on [Base Setting] screen and [Enable/Disable] screen opens. When you use Manager Report (TCP_IP Out-of-Band), make sure to select "Permit discretionary authentication including clear text" for the encryption setting inRemote Access Service (RAS) setting on NEC ESMPRO Manager side.



Enable the function

Enable/Disable Manager (TCP_IP Out-of -Band). When checked, it is active. Set using space key.

[ok]

Settings are saved and this screen closes.

[cancel]
2.2. Other Setting

Specify the time that elapses before shutdown.

Select "Shutdown Delay" on [Base Setting] screen and [Shutdown Setting] screen opens.

	- Shutdown S	Setting
[*]	Enable the f	function.
Shutdown Delay: 20		
	ok	cancel
	ok	cancel

Enable the function

Enable/Disable the shutdown function. When checked, it is active. Set using space key. This field is checked by default.

Shutdown Delay

Range is 0 to 1800 seconds. Default value is 20 seconds. If you specified "Shutdown" for "Action After Report" or the shutting down request from NEC ESMPRO Manager has occurred, shutdown is started after the time set here has passed.

[ok]

Settings are saved and this screen closes.

[cancel]

This screen closes without saving changes.

3. Destination Setting

Select "Destination ID Setting" on Control Panel (ESMamsadm) and [Destination ID Setting] screen opens.



ID Name

The list of the registered Destination ID is displayed.

Message

Method: The report method of ID selected from "ID Name" is displayed. Address: The address information of ID selected from "ID Name" is displayed.

[Add...]

New Destination ID is added. Press this button to open [ID Setting] screen. If you have registered a Destination ID that has different destinations using the same reporting method, you can send messages to multiple addresses with this method.

[Modify...]

Press to modify the setting of Destination ID selected from "ID Name".

[Delete...]

Destination ID selected from "ID Name" is deleted. "SNMP", "TCP_IP In-Band" and "TCP_IP Out-of-Band" are set as default. You cannot delete them.

When you delete a Destination ID, it will also be deleted from events to be monitored.

[close]

Close this screen.

3.1. Changing the Setting of Destination ID

Change the setting of Destination ID registered in the list. Select Destination ID you want to change from "ID Name" on [Destination ID Setting] screen and press [Modify...] to open [ID Setting] screen. The setting steps are different by the report methods.



[Setting Method]

Press [Address...] and [Schedule...] to set where and when to report. While modifying the settings, you cannot modify "ID" and "Method". (read only) When "Manager (SNMP)" has been selected as "Method", even if [Address...] is pressed, the address setting screen is not displayed because it is not necessary to set the address.

3.1.1. Address Setting of Manager (TCP_IP In-Band)

When [Address...] is pressed when "Manager (TCP_IP In-Band)" has been selected as "Method" on [ID Setting] screen, [Manager (TCP_IP In-Band) Setting] screen opens.

If own hostname is unestablished in /etc/hosts, NEC ESMPRO Agent acquires IP address of the origin of TRAP transmission using socket communication of UDP.

When host name is displayed unknown server AlertViewer of NEC ESMPRO Manager, set host name and IP address of the server which installed NEC ESMPRO Agent in /etc/hosts file.

[example] IP Address of server: 192.168.1.123, Hostname: server1

192.168.1.123 server1

About the mention contents details to /etc/hosts file, refer to "The report which it received with AlertViewer of NEC ESMPRO Manager becomes the unknown server." item of "6. Common Questions"



IP Address (or Host Name)

Set IP address (or Host Name) of NEC ESMPRO Manager. You cannot omit it.

Port Number

The port number used for the communication between sockets can be set. For this number, the value must be the same for NEC ESMPRO Agent and NEC ESMPRO Manager. Default value is 31134 for both of NEC ESMPRO Agent and NEC ESMPRO Manager. Do not change the value as long as default value works. When an existing set price has a problem, change a number in range of 6001 to 65535, and carry out a setting tool with the machine which NEC ESMPRO Manager of the report is installed in, and change setting of "Setting" - "Base Setting" - "Receive from Agent (TCP/IP)".

Note

Open ports through your access limit to allow access to localhosts.

[Default]

The port number will be set to default value (31134).

[ok]

Settings are saved and this screen closes.

[cancel]

This screen closes without saving changes.

3.1.2. Address Setting of Manager (TCP_IP Out-of-Band)

When [Address...] is pressed when "Manager (TCP_IP Out-of-Band)" has been selected as "Method" on [ID Setting] screen, [Manager (TCP_IP Out-of -Band) Setting] screen opens.

If own hostname is unestablished in /etc/hosts, NEC ESMPRO Agent acquires the IP address of the origin of TRAP transmission using socket communication of the UDP.

When host name is displayed unknown server AlertViewer of NEC ESMPRO Manager, set host name and IP address of the server which installed NEC ESMPRO Agent in /etc/hosts file.

[example] IP Address of server: 192.168.1.123, Hostname: server1

192.168.1.123 server1

About the mention contents details to /etc/hosts file, refer to "The report which it received with AlertViewer of NEC ESMPRO Manager becomes the unknown server." item of "6. Common Questions"

Manager(TCP_IP Out-of-Band) Setting
IP Address(or Host Name):
Select Remote Access Service Entry Phone Number: 0 User: Password:
Port Number
0 Default
ok cancel

IP Address (or Host Name)

Set IP address (or Host Name) of NEC ESMPRO Manager. You cannot omit it.

Select Remote Access Service Entry

Set Phone Number, User, and Password.

Port Number

The port number used for the communication between sockets can be set. For this number, the value must be the same for NEC ESMPRO Agent and NEC ESMPRO Manager. Default value is 31134 for both of NEC ESMPRO Agent and NEC ESMPRO Manager. Do not change the value as long as default value works. When an existing set price has a problem, change a number in range of 6001 to 65535, and carry out a setting tool with the machine which NEC ESMPRO Manager of the report is installed in, and change setting of "Setting" - "Base Setting" - "Receive from Agent (TCP/IP)".

[Default]

The port number will be set to default value (31134).

[ok]

Settings are saved and this screen closes.

[cancel]

This screen closes without saving changes.

3.1.3. Schedule Setting

Set the report Schedule for each Destination ID.



Retry Interval

Set the retry interval. Range is 1 to 30 minutes.

Default value is 5 minutes.

Reporting Expiration Time

Set the maximum retry time. Range is 0 to 240 hours. Default value is 72 hours. If you set 0 hour, no report is reported.

Reporting Time Table

Set the reportable time periods. Only the alerts that occur during the reportable time are reported. It is possible to specify a time period of 1 hour. Default value is 24 hours. An alert that occurs outside the reportable time is not reported immediately. When the reportable time comes, it is reported. The event is reserved until then.

[ok]

Settings are saved and this screen closes.

[cancel]

This screen closes without saving changes.

3.2. Adding Destination ID

ID Setting
ID:
Method: MANAGER (SNMP)
Address:
Address Schedule ok cancel

Add Destination ID to the list. The setting steps differ by the report methods.

[Setting Method]

- 1. It input half size alphanumeric character or half size space, half size hyphen (-), half size under bar (_) in Input ID in less than 31 characters.
- 2. Select a report method. Select using "UP/DOWN" arrow keys.
- 3. Press [Address...] to set the address on displayed screen.
- 4. Press [Schedule...] to set the report schedule on displayed screen.
- 5. Press [ok].

When "Manager (SNMP)" has been selected as "Method", even if [Address...] button is pressed, the address setting screen is not displayed because it is not necessary to set the address.

4. Agent Events Setting

Functions

Set monitor events of NEC ESMPRO Agent and associate monitor events with report destinations. If monitor events of NEC ESMPRO Agent occur, alerts will be sent to destinations set up here.

Tips	In the following servers, a source the event of ESMCOMMONSERVICE is a report event for exclusive use of Express Report Service. Do not add "SNMP", "TCP_IP IN-BAND" and "TCP_IP OUT-OF-BAND" to the report destination. When these add to the report destination, can not report it definitely. It is reported SNMP Trap (Platform Event Trap) by EXPRESSCOPE Engine (RMC) implemented by a
	(Platform Event Trap) by EXPRESSSOPE Engine (BMC) implemented by a server
	Rack Server:
	NEC Express5800/R120f-1M, R120f-2M, R120f-1E, R120f-2E
	Server Blade
	NEC Express5800/B120f, B120f-h
	Tower Server
	NEC Express5800/T120f
	Scalable HA Server
	NEC Express5800/A1040c, A2010c, A2020c, A2040c

Settings

Select "Agents Events Setting" on Control Panel (ESMamsadm) and [Agents Events Setting] screen opens.

Agents Events Setting		
Source: ESM MYLEX SERVICE		
Operation on source: () ON (*) OFF		
Event ID: 40040201		
Trap Name:Physical Device REBUILD		
Set		

Source

The list of the source names is displayed. Select using "UP/DOWN" arrow keys.

Operation on source

Operation on source can be selected. Set using space key. This choice is choice of the processing method not setting contents. Therefore "OFF" is chosen every start of Control Panel.

When you do the following setting, you choose "ON".

- When, for none of Event ID of "Source" that you chose, you set report by a lump. But the setting of the monitoring event is not possible.

When you do the following setting, you choose "OFF".

- When, for Event ID of "Source" that you chose, you set report and a monitoring event.

Event ID

Event ID from the source selected in "Source" is displayed. Select using "UP/DOWN" arrow keys. When "ON" is selected in "Operation on source", "ALL" is displayed in "Event ID".

Trap Name

The trap name of Event ID selected from "Event ID" is displayed.

[Set...]

When you choose "OFF" in "Operation on source", you can set it for Event ID of the source which you chose.

When you choose "ON" in "Operation on source", you can set report by a lump for all Event ID of the source which you chose. Pressing this button displays [Monitor Event Setting] screen.

[close]

Close this screen.

4.1. Setting Destination (Agent Event)

- The following are the methods of specifying the report destination:
- 1) Specify the report destination for each monitor event individually.
- 2) Specify the same report destination for all Event ID under each source at the same time.

4.1.1. To specify the report destination for each monitor event individually

Not only the report destination but also Action After Report, Deal Method, etc., can be set.

[Setting Method]

Agents Events Setting
Source: ESMCOMMONSERVICE
Operation on source: () ON (*) OFF
Event ID: 40000068
Trap Name:Temp Upper Recovered
Set

- 2. Select the source name from "Source". Select using "UP/DOWN" arrow keys.
- 3. Select "OFF" from "Operation on source". Set using space key.
- 4. Select Event ID for which you want to modify the setting from "Event ID". Select using "UP/DOWN" arrow keys.
- 5. Press [Set...] and [Monitor Event Setting] screen opens.

Monitor Event Setting	
Source: ESMCOMMONSERVICE	
Event ID: 40000068	
Action After Report: None	
Deal Method:	
Destination ID List: TCP_IP IN-BAND TCP_IP OUT-OF-BAND Kemove	
ok cancel	

- 6. Select ID to be reported from "Destination ID List".
- 7. Pressing [Add] moves ID to "Report to".
- 8. To delete ID from "Report to", select ID from "Report to" and press [Remove] to move ID to "Destination ID List".
- 9. Press [ok].

Action After Report

Select either "Shutdown", "Reboot", or "None" from the list and specify an action after report. Select using "UP/DOWN" arrow keys.

Deal Method

Specify the action method to the reported item. The limit is 507 alphanumeric characters.

4.1.2. To specify the same report destination for all event ID under each source at the same time

Even if [Monitor Event Setting] screen is opened again after this setting is done, nothing is displayed in "Report to". Confirm the setting individually in each event.

[Setting Method]

1. Start Control Panel (ESMamsadm), and select "Agents Events Setting". [Agents Events Setting] screen opens.

Agents Events Setting
Source: ESMCOMMONSERVICE
Operation on source: (*) ON () OFF
Event ID: All
Trap Name:
Set

- 2. Select the source name from "Source". Select using "UP/DOWN" arrow keys.
- 3. Select "ON" from "Operation on source". Set using space key.
- 4. Press [Set...] and [Monitor Event Setting] screen opens.

Monitor Event Setting
Source: ESMCOMMONSERVICE
Event ID: All
Destination ID List: TCP_IP_IN-BAND TCP_IP_OUT-OF-BAND CRemove
ok Cancel

- 5. Select ID to be reported from "Destination ID List".
- 6. Pressing [Add] moves ID to "Report to".
- 7. To delete ID from "Report to", select ID from "Report To" and press [Remove] to move ID to "Destination ID List".
- 8. Press [ok].

5. Syslog Events Setting

Functions

You can link the setting of Syslog Monitoring Event with the report to monitoring events. If monitor events occur, alerts will be sent to destinations set up here. You can arbitrarily add and delete new event sources and new monitoring events in addition to events registered beforehand according to the system environment. Monitoring syslog events is preformed at intervals of 5 minutes. You can change the monitoring interval of Syslog event monitoring.

Refer to chapter 2 "4. Syslog Monitoring" for the method to modify monitoring interval.

Settings

Select "Syslog Events Setting" on Control Panel (ESMamsadm) and [Syslog Events Setting] screen opens.

Syslog Events Setting
Source: ALERTMANAGER
Operation on source: () ON (*) OFF
Event ID: 80000001
Trap Name: AM FILE ERROR
Add Del Set close

Source

The list of the source name is displayed. Select using "UP/DOWN" arrow keys.

Operation on source

Operation on source can be selected. Set using space key. This choice is choice of the processing method not setting contents. Therefore "OFF" is chosen every start of Control Panel.

When you do the following setting, you choose "ON".

- When, for none of Event ID of "Source" that you chose, you set report by a lump. But the setting of the monitoring event is not possible.

When you do the following setting, you choose "OFF".

- When, for Event ID of "Source" that you chose, you set report and a monitoring event.

Event ID

When "OFF" is selected in "Operation on source", Event ID list from the source selected in "Source" is displayed.

When "ON" is selected in "Operation on source", "ALL" is displayed in "Event ID".

[Test]

When "OFF" is selected in "Operation on source", for the test report, press this button. Not only the report but also "Action After Report" works. Therefore be careful about the choice of the report to test because it may be shut down depending on setting.

When "ON" is selected in "Operation on source", or report the event of specific source name FTREPORT cannot test.

It push "close" button to let the setting of Syslog Event re-reading when it changed addition and deletion, setting and close the setting screen of "Syslog Events Setting" of "Syslog Events Setting" among a "Report Setting" screen again.

Trap Name

The trap name of Event ID selected in "Event ID" is displayed.

[Add...]

When "OFF" is selected in "Operation on source", add Syslog Monitoring Event under the source selected in "Source". Pressing this button displays [Add Syslog Item] screen.

When "ON" is selected in "Operation on source", add the source of Syslog Monitoring Event. Pressing this button displays [Add Syslog Item] screen.

[Del...]

When "OFF" is selected in "Operation on source", delete Syslog Monitoring Event selected in "Event ID". When "ON" is selected in "Operation on source", delete the source of Syslog Monitoring Event selected in "Source".

[Set...]

When "OFF" is selected in "Operation on source", modify the setting of the monitor event selected from "Event ID". Specify the report destination to the monitor event selected from "Event ID". Pressing this button displays [Syslog Application Setting] screen.

When "ON" is selected in "Operation on source", specify the report destination for to all Event ID of the source selected from "Source" at the same time. Pressing this button displays [Syslog Application Setting] screen.

[close]

[Syslog Events Setting] screen closes.

5.1. Setting Destination (Syslog Event)

- The following are the methods of specifying the report destination:
- 1) Specify the report destination for each monitor event individually.
- 2) Specify the same report destination for all Event ID under each source at the same time.

5.1.1. To specify the report destination for each monitor event individually

Not only the report destination but also Action After Report, Deal Method, etc., can be set.

[Setting Method]

Syslog Event	s Setting
Source: ALERTMANAGER	
Operation on source: () ON	(*) 0FF
Event ID: <mark>80000001</mark>	Test
Trap Name: AM FILE ERROR	
Add	Set

- 2. Select the source name from "Source". Select using "UP/DOWN" arrow keys.
- 3. Select "OFF" from "Operation on source". Set using space key.
- 4. Select Event ID for which you want to modify the setting from "Event ID". Select using "UP/DOWN" arrow keys.
- 5. Press [Set...] and [Syslog Application Setting] screen opens.

Syslog Application Setting	
Source: ALERTMANAGER	
Event ID: 80000001 Keyword1: AM ELLE ERROR	(Detail)
Keyword2:	(Detail)
Keyword3:	< <u>Detail></u>
Deal Method: Please report to the	
Report Count: 1	
Destination ID List: Report to:	
TCP_IP OUT-OF-BAND (Remove)	
0-24.	
ok	

- 6. Select ID to be reported from "Destination ID List".
- 7. Pressing [Add] moves ID to "Report to".
- 8. To delete ID from "Report to", select ID from "Report to" and press [Remove] to move ID to "Destination ID List".
- 9. Press [ok].

Action After Report

Select either "Shutdown", "Reboot", or "None" from the list and specify an action after report. Select using "UP/DOWN" arrow keys.

Deal Method

Specify the action method to the reported item within 507 alphanumeric characters.

Report Count

The report is done when the key word is registered in Syslog at the same frequency as the setting here.

Monitoring Time Table

Set the reportable time periods. Only the alerts that occur during the reportable time are reported. It is possible to specify 1 hour. Default value is 24 hours.

5.1.2. To specify the same report destination for all event ID under each source at the same time

Even if [Syslog Application Setting] screen is opened again after this setting is done, nothing is displayed in "Report to". Confirm the setting individually in each event.

[Setting Method]

Syslog Events Setting
Source: ALERTMANAGER
Operation on source: (*) ON () OFF
Event ID: All
Trap Name:
Add Del Set

- 2. Select the source name from "Source". Select using "UP/DOWN" arrow keys.
- 3. Select "ON" from "Operation on source". Set using space key.
- 4. Press [Set...] and [Syslog Application Setting] screen opens.

	Syslog Application Setting
E	Source: ALERTMANAGER Event ID: All
	Destination ID List: Report to: TCP_IP_IN-BAND TCP_IP_OUT-OF-BAND (Remove)
	ok

- 5. Select ID to be reported from "Destination ID List".
- 6. Pressing [Add] moves ID to "Report to".
- 7. To delete ID from "Report to", select ID from "Report to" and press [Remove] to move ID to "Destination ID List".
- 8. Press [ok].

5.2. Adding of Syslog Monitoring Event Sources

According to the system environment, you can arbitrarily add new event sources. Add new event sources here when you want to monitor the event that applications other than NEC ESMPRO Agent register. You register the first new monitoring event, when registering a new event source. The maximum number of events that can be registered is 1,024. Keep in mind that the amount of the disk used and the amount of the memory used are increased by the number of registered events.

[Setting Method]

Syslog Events Setting
Source: ALERTMANAGER
Operation on source: (*) ON () OFF
Event ID: All Test
Trap Name:
Add Del Set close

- 2. Select "ON" from "Operation on source". Set using space key.
- 3. Press [Add...], and then [Add Syslog Item] screen opens.



4. Input Source, Event ID, Keyword, Trap Name and Deal Method.

5. Press [Done].

It sets Action After Report: None and Report Count: 1 than.

Source (need)

Specify the source name within 40 alphanumeric characters. The source name converts it into a capital letter to use a capital letter even if you set a small letter for a source name, but "Type" to display with AlertViewer comes to remain an alphanumeric character which you set. When they set it by a small letter, in "Source", capital letter, "Type" becomes the small letter.

It is displayed by a "Source" column and "Type" column of AlertViewer of NEC ESMPRO Manager.

Event ID (need)

Specify Event ID by 8 alphanumeric characters (hexadecimal number) according to the following naming rule of event ID. The format of Event ID is "x0000yyy". (For example: 40000101, 800002AB, C0000101) Select one as follows, and set it in "x":

- Specifies events about information.
 The color of the icon displayed in AlertViewer is green.
- 8: Specifies events about warning.The color of the icon displayed in AlertViewer is yellow.
- C: Specifies events about abnormalities.

The color of the icon displayed in AlertViewer is red.

Set an arbitrary hexadecimal number to "yyy". Range is 0x001 to 0xFFF.

Keyword1 (need), Keyword2, Keyword3

Specify the character string for which NEC ESMPRO Agent can uniquely specify the message registered in Syslog within 256 alphanumeric characters. When the message including all keywords is detected from Syslog, the full text of the message is reported to NEC ESMPRO Manager. It is displayed in "Details" column of AlertViewer of NEC ESMPRO Manager.

The detection range in one is from a head of a line to 1024Byte.

Trap Name (need)

Specify the outline of the report message within 79 alphanumeric characters. It is displayed in "Outline" column of AlertViewer of NEC ESMPRO Manager.

Deal Method

Specify the action method to the reported item within 507 alphanumeric characters. It is displayed in "Action" column of AlertViewer of NEC ESMPRO Manager.

5.3. Adding of Syslog Monitoring Event

Responding to the system environment, you can add a new Syslog Monitoring Event under Syslog Monitoring Event Source that has already been registered.

[Setting Method]

Syslog Event	s Setting
Source: ALERTMANAGER	
Operation on source: () ON	(*) 0FF
Event ID: <mark>80000001</mark>	Test
Trap Name: AM FILE ERROR	
Add	Set

- 2. Select the source name from "Source". Select using "UP/DOWN" arrow keys.
- 3. Select "OFF" from "Operation on source". Set using space key.
- 4. Press [Add...] and [Add Syslog Item] screen opens.
- Input Event ID, Keyword, Trap Name and Deal Method. Refer to "5.2 Adding of Syslog Monitoring Event Sources" for details.
- 6. Press [Done].

5.4. Deleting of Syslog Monitoring Event Sources

The source of Syslog Monitoring Event can be deleted from Syslog Event watch. When you delete an event source, all monitoring events contained in that source will be deleted. Certain monitoring event resources are registered with NEC ESMPRO Agent by default. You cannot delete them.

[Setting Method]

Syslog Events Setting
Source: ALERTMANAGER
Operation on source: (*) ON () OFF
Event ID: All Test
Trap Name:
Add Del Set close

- 2. Select the source name that you want to delete from "Source". Select using "UP/DOWN" arrow keys.
- 3. Select "ON" from "Operation on source". Set using space key.
- 4. Press [Del...].

5.5. Deleting of Syslog Monitoring Event

You can delete an event source from Syslog Monitoring Event. The predetermined watch event that NEC ESMPRO Agent registers cannot be deleted.

[Setting Method]

Syslog Events	s Setting
Source: ALERTMANAGER	
Operation on source: () ON	(*) 0FF
Event ID: <mark>80000001</mark>	Test
Trap Name: AM FILE ERROR	
Add	Set

- 2. Select the source name from "Source". Select using "UP/DOWN" arrow keys.
- 3. Select "OFF" from "Operation on source". Set using space key.
- 4. Select Event ID that you want to delete from "Event ID". Select using "UP/DOWN" arrow keys.
- 5. Press [Del...].

5.6. Test of Syslog Monitoring Event

You can test a Syslog Event and do a transmission test of a SNMP report.

[Setting Method]

Syslog Events	s Setting
Source: ALERTMANAGER	
Operation on source: () ON	(*) OFF
 Event ID: <mark>80000001 </mark> 	Test
Trap Name: AM FILE ERROR	
Add	Set

- 2. Select the source name from "Source". Select using "UP/DOWN" arrow keys.
- 3. Select "OFF" from "Operation on source". Set using space key.
- 4. Select optional Event ID from "Event ID". Select using "UP/DOWN" arrow keys.
- 5. Press [Set...]. [Syslog Application Setting] screen opens.

Syslog Application Setting	
<pre>Source: ALERTMANAGER Event ID: 80000001 Keyword1: AM FILE ERROR Keyword2: Keyword3: Action After Report: None Deal Method: Please report to the Report Count: 1 Destination ID List: EXPRESSREPORT TCP_IP IN-BAND TCP_IP OUT-OF-BAND Monitoring Time Table 0-24,</pre>	<detail> <detail> <detail></detail></detail></detail>
ok Cancel	

6. "Action After Report" confirms that "None" and "Report to" are "SNMP".

Note In case of "Action After Report" is "Shutdown" or "Reboot", not only the report but also "Action After Report" works. In case of "Report to" is "<none>", report not send.

7. Press [ok].

[Syslog Events Setting] screen opens.

Syslog Events Setting	
Source: ALERTMANAGER	
Operation on source:	
Event ID: 80000001	
Trap Name: AM FILE ERROR	
Add Del Set close	

Press [Test].
 A test message is recorded in syslog.
 When the watch space of the Syslog watch (fixed value for 300 seconds) is exceeded, the test message recorded in syslog is detected and SNMP is reported.



NEC ESMPRO Agent Ver. 4.6

OpenIPMI and Additional Features

This chapter explains introduction of OS Stall Monitoring by using OpenIPMI, and additional features of NEC ESMPRO Agent.

- 1. OS Stall Monitoring by using OpenIPMI
- 2. Configuration tool

1. OS Stall Monitoring by using OpenIPMI

This section explains OS Stall Monitoring by using OpenIPMI.

Important This section is described setting example of the OS Stall Monitoring by OpenIPMI which is open source software (OSS) as reference. NEC assumes no liability or warranties relating to OpenIPMI which is OSS.

Functions

You can monitor OS Stall condition by regularly updating watchdog timer (timer for software stall monitoring) mounted machine. In case there is no response due to OS stall or, timer is not updated or other reasons, Watchdog timer expires and the system reboot automatically.

Note

Confirm the movement situation of OpenIPMI by all means before setting this chapter. Because it uses a server management driver for OS stall monitoring when "mainte" is displayed by Ismod command, it is not necessary to set this chapter.

Settings

You can set timeout period, update interval, action after timeout. The parameter is as follows.

Timeout Period: timeout

Period Value in which whether OS stall generation is judged. You can set it in number of seconds. Default Value is 60 seconds. It is possible to be set from 10 seconds.

You can set it in /etc/sysconfig/ipmi

Action after Timeout: action

You can select how to restore after timeout.

Default Value is reset. You can set it in /etc/sysconfig/ipmi

none	It is not restored.	
reset	Reset system and try to reboot.	
power_off System power is shut down.		
power_cycle	First power OFF and power ON just after that.	

Update Interval: interval

Interval value which timer update. You can set it in number of seconds.

Default Value is 10 seconds. It is possible to be set within 1-59 seconds.

You can set it in /etc/watchdog.conf

Important By the system load situation of the machine, Even if OS is not a state of the stall, watchdog timer can not be updated, so there is a possibility that the time-out is generated. After it evaluates it in the state of a high load in the system requirements, set the stall monitoring.

I.I. Red Hat Enterprise Linux 4 to 5, SUSE Linux Enterprise Server 10

Supported OS

Red Hat Enterprise Linux 4	(RHEL4)
Red Hat Enterprise Linux 5	(RHEL5)
SUSE Linux Enterprise Server 10 SP2	(SLES10SP2)
SUES Linux Enterprise Server 10 SP3	(SLES10SP3)

Settings

Stall Monitoring Setting

Log in to the system as the root user.

1) Install necessary packages in advance.

1-1) Install the following OpenIPMI packages.

RHEL4, RHEL5	SLES10SP2, SLES10SP3
OpenIPMI-*.rpm	OpenIPMI-*.rpm
OpenIPMI-tools-*.rpm	ipmitool-*.rpm

1-2) Install watchdog package (watchdog-*.rpm). It is likely not to be being offered.If there is no watchdog Package, the following procedure (3) is different.

2) Set OpenIPMI

2-1) Refer to the following and modify /etc/sysconfig/ipmi by using editor.

```
IPMI_WATCHDOG=yes
IPMI_WATCHDOG_OPTIONS="timeout=180 action=reset start_now=1"
```

* The configuration parameter is the following in this case.

Timeout Period: 180 seconds

Action after Timeout: reset

If start_now is set 1, watchdog timer will be executed at the same time as the driver's being loaded.

- 2-2) Set that OpenIPMI is possible to start automatically.
 - # chkconfig ipmi on

3) Set WDT Update program

watchdog package is installed

3-1) Refer to the following and modify /etc/watchdog.conf by using editor

Important	When you use watchdog package which can appoint timeout period, it is set
	for setting of IPMI without relations again for 60 seconds of default. When
	you change this value, the following setting is necessary for watchdog.conf.
	watchdog-timeout = 180
	-> Appoint timeout period with number of seconds.

(In this case appoint 180 seconds.)

The presence designated at timeout period, you can confirm it in having explanation or not of watchdog-timeout of "man watchdog.conf".

[In the case of the watchdog package which cannot appoint timeout period]

watchdog-device = /dev/watchdog
interval = 30

[In the case of the watchdog package which can appoint timeout period]

```
watchdog-device = /dev/watchdog
interval = 30
watchdog-timeout = 180 -> Appoint timeout period with number of seconds.
```

In this case appoint 180 seconds.

* Set Update Interval by the number of seconds in 'interval='. In this case Update Interval is 30 seconds

- 3-2) Set that WDT Update program is possible to start automatically.
 - # chkconfig watchdog on

watchdog package is not installed

3-1) Referring to the following and create WDT Update program.

```
The file name is assumed to be "ResetWDT" in this case.
```

```
#!/bin/sh
while true
do
/usr/bin/ipmitool raw 0x6 0x22 > /dev/null 2>&1
sleep 30
done
------
```

* Set Update Interval by the number of seconds in 'sleep='. Update Interval is 30 seconds in this case.

3-2) Copy WDT Update program to /usr/sbin.

install -p -m 755 ResetWDT /usr/sbin

- 3-3) Refer to the following and create WDT Update program script. The file name is assumed to be "watchdog" in this case.
 - -----

#! /bin/sh

```
#
# chkconfig: - 27 46
# description: software watchdog
#
# Source function library.
. /etc/rc.d/init.d/functions <= Delete for SLES10SP2, SLES10SP3</pre>
prog=/usr/sbin/ResetWDT
case "$1" in
        start)
           echo -n "Starting watchdog daemon: "
           ${prog} &
           success "Starting watchdog daemon" <= Delete for</pre>
SLES10SP2.SLES10SP3
           echo
         ;;
      *)
         echo "Usage: watchdog {start}"
         exit 1
         ;;
esac
_____
```

* Specify the path of WDT Update program in 'prog='

3-4) Copy WDT Update program script.

RHEL4, RHEL5

install -p -m 755 watchdog /etc/rc.d/init.d

SLES10SP2, SLES10SP3

install -p -m 755 watchdog /etc/init.d

3-5) Set that WDT Update program is possible to start automatically.

- # chkconfig --add watchdog
- # chkconfig watchdog on

Note

When you create the program and script on Windows, It is necessary to change code for Linux under use.

4) Restart the system.

reboot

Disable Procedure

Log in to the system as the root user.

1) Refer to the following and modify $/{\tt etc/sysconfig/ipmi}$ by using editor.

IPMI_WATCHDOG=no

- 2) Set that WDT Update program is possible to stop automatically.
- 3) Restart the system.

Deletion Procedure

Log in to the system as the root user.

- 1) Invalidate function of stall monitoring.
- 2) Delete watchdog package is installed, delete it. If it is not installed, do the following.
- 3) Delete WDT Update program and WDT Update program script
1.2. Red Hat Enterprise Linux 6 to 7, SUSE Linux Enterprise Server 11

Supported OS

Red Hat Enterprise Linux 6	(RHEL6)
Red Hat Enterprise Linux 7	(RHEL7)
SUES Linux Enterprise Server 11	(SLES11)
SUES Linux Enterprise Server 12	(SLES12)

Settings

Stall Monitoring Setting

Log in to the system as the root user.

1) Install necessary packages in advance.

- 1-1) Install the following OpenIPMI packages.
 - RHEL6, RHEL7, SLES11
 - OpenIPMI-*.rpm
 - ipmitool-*.rpm

SLES12

- OpenIPMI-[0-9]*.rpm
- ipmitool-*.rpm

2) Set OpenIPMI.

2-1) Refer to the following and modify /etc/sysconfig/ipmi by using editor.

IPMI WATCHDOG=no

2-2) Set that OpenIPMI is possible to start automatically. #chkconfig ipmi on

3) Set WDT Update program.

3-1) Referring to the following and create WDT Update program.

The file name is assumed to be "ResetWDT" in this case.

```
-----
```

#!/bin/sh

sleep 60 <= You should change for your system.</pre>

/usr/bin/ipmitool raw 0x6 0x24 0x4 0x01 0xa 0x3e 0x08 0x07 > /dev/null 2>&1
*1
while true
do
/usr/bin/ipmitool raw 0x6 0x22 > /dev/null 2>&1
sleep 30 <= Update Interval. Set it with number of seconds. It is 30 seconds in this example.</pre>

done

```
*1 ipmitool parameter for "Set Watchdog Timer Commnand"
  raw : Send RAW IPMI request and print response.
  0x6 : NetFunction
  0x24 : Command
  0x4 : Timer Use (SMS/OS)
       [2:0]
          000b = reserved
          001b = BIOS FRB2
          010b = BIOS/POST
          011b = OS Load
          100b = SMS/OS
          101b = OEM
          Other = reserved
  0x01 : Timer Actions (Hard Reset)
         [7]
              reserved
         [6:4] pre-timeout interrupt
          000b = none
          001b = SMI
          010b = NMI/Diagnostic interrupt
          011b = Messaging Interrupt
          Other = reserved
         [3]
               reserved
         [2:0] timeout action
          000b = no action
          001b = Hard Reset
          010b = Power Down
          011b = Power Cycle
          Other = reserved
  0xa : Pre-timeout interval
  0x3e : Timer Use Expiration flags clear
  0x08 : Initial countdown value, Isbye (100ms/count)
  0x07 : Initial countdown value, msbyte
        180 seconds X 10 = 1800 (decimal) = 0x0708 (hex)
              Important By the system load situation of the machine, Even if OS is not a state of the
```

stall, watchdog timer can not be updated, so there is a possibility that the time-out is generated. After it evaluates it in the state of a high load in the system requirements, set the stall monitoring.

Tips

For "Set Watchdog Timer Command" detail, refer to IPMI Specification. https://www.intel.com/content/www/us/en/servers/ipmi/ipmi-home.html

3-2) Copy WDT Update program to /usr/sbin.

install -p -m 755 ResetWDT /usr/sbin

3-3) Refer to the following and create WDT Update program script. The file name is assumed to be "watchdog" in this case.

```
-----
#! /bin/sh
#
# chkconfig: - 27 46
# description: software watchdog
#
# Source function library.
### BEGIN INIT INFO
# Provides: watchdog
# Required-Start:
# Should-Start: ipmi
# Required-stop:
# Default-Start: 2 3 5
# Default-stop:
# Short-Description: watchdog
# Description: software watchdog
### END INIT INFO
prog=/usr/sbin/ResetWDT
case "$1" in
        start)
           echo -n "Starting watchdog daemon: "
           ${prog} &
           echo
         ;;
     *)
         echo "Usage: watchdog {start}"
         exit 1
         ;;
esac
_____
* Specify the path of WDT Update program in 'prog='
```

3-4) Copy WDT Update program script .

```
# install -p -m 755 watchdog /etc/init.d
```

3-5) Set that WDT Update program is possible to start automatically.

- # chkconfig --add watchdog
- # chkconfig watchdog on

Note

When you create the program and script on Windows, It is necessary to change code for Linux under use.

4) Restart the system.

reboot

Disable Procedure

Log in to the system as the root user.

- 1) Set that WDT Update program is possible to stop automatically.
- 2) Restart the system.

Deletion Procedure

Log in to the system as the root user.

- 1) Set that WDT Update program is possible to stop automatically.
- 2) Delete WDT Update program and WDT Update program script.
- 3) Restart the system.

2. Configuration tool

NEC ESMPRO Agent provides configuration tool (this tool) to the /opt/nec/esmpro_sa/tools subordinates.

- NEC ESMPRO Agent Ver.4.4 or later is necessary to use this tool.
 It installs by all means NEC ESMPRO Agent Ver.4.4 or later and operates it.
- 2) Root authority is necessary to use this tool.

Log in by all means in a user with the root authority.

3) It cannot use plural these tools at the same time.

In addition, do not start Control Panel (ESMagntconf, ESMamsadm) of NEC ESMPRO Agent either.

4) Carry out either following to reflect the setting of this tool in NEC ESMPRO Agent.

- Execute the following commands and reboot NEC ESMPRO Agent service.

- # /opt/nec/esmpro_sa/bin/ESMRestart
- Execute the following commands and reboot the system.
 - # reboot

5) This tool can carry out by a shell script, but attention is necessary for the following points.

- Describe "#!/bin/bash" in the first line of the script file.
- Save the script file in Linux newline code (LF).

By the editor of Windows standards, a newline code is converted into Windows newline code (CR+LF) at the time of file preservation automatically.

esmamset command

By esmamset command, it can set the following.

- 1) The rack name can be set when the server is a rack mount type.
- 2) Select SNMP community name.
- 3) Enable/Disable Manager Report (SNMP).
- 4) Add/Remove SNMP Trap Destination IP address.
- 5) Enable/Disable Manager (TCP_IP In-Band).
- 6) Add/Remove Manager (TCP_IP In-Band) IP address.
- 7) Port Number of Manager (TCP_IP In-Band).
- 8) Enable/Disable the shutdown function.

esmsysrep command

By esmsysrep command, it can set the following.

- 1) Adding of Syslog Monitoring Event.
- 2) Setting of Syslog Monitoring Event.
- 3) Deleting of Syslog Monitoring Event.

2.1. esmamset command

Functions

By esmamset command, it can set the following.

- 1. The rack name can be set when the server is a rack mount type.
- 2. Select SNMP community name.
- 3. Enable/Disable Manager Report (SNMP).
- 4. Add/Remove SNMP Trap Destination IP address.
- 5. Enable/Disable Manager (TCP_IP In-Band).
- 6. Add/Remove Manager (TCP_IP In-Band) IP address.
- 7. Port Number of Manager (TCP_IP In-Band).
- 8. Enable/Disable the shutdown function.
- 9. Monitoring interval of Syslog Monitoring.
- 10. Custom Monitoring Object of Syslog Monitoring.
- 11. File Monitoring Object of Syslog Monitoring.

Settings

The usage of esmamset command is as follows.

It is necessary restart of NEC ESMPRO Agent service to reflect the setting that you executed by esmamset command in working NEC ESMPRO Agent.

```
# cd /opt/nec/esmpro_sa/tools/
```

./esmamset [OPTION]

:

/opt/nec/esmpro_sa/bin/ESMRestart

```
Usage:
```

```
esmamset [-r <rackname>] [-c <community>]
    [--mi <second>] [--cmo <filename>] [--fmo <filename>]
    [-s ON|OFF] [-d <delip|ALLIP ...>] [-a <addip ...>]
    [-t ON|OFF] [-i <ip>] [-p <port>]
    [-o ON|OFF]
    [-f <filename>]
    [-P]
    [-h]
```

[OPTION] Designation

[OPTION] appoints the following. It can appoint plural options at the same time.

lf	a blank is included in a va	lue to set, add " ((double q	uotation mark)	to front and back.

Option	Explanation
-r <rackname></rackname>	It set the rack name.
-c <community></community>	It set SNMP Community. It can appoint it to up to 33 bytes.
	When it appointed the community name which is not set in snmpd.conf, the
	setting revises snmpd.conf earlier because it is not changed.
mi <second></second>	Specify the monitoring interval of Syslog Monitoring. Range is 10 to 3600

Option	Explanation
	seconds.
cmo <filename></filename>	Set the monitoring object which does not include "/var/log/messages"
	character string with the absolute pass which becomes with less than 255
	bytes of length of the pass. It becomes only a file output with a format same as
	a syslog.
fmo <filename></filename>	Set the monitoring object which does not include "/var/log/messages"
	character string with the absolute pass which becomes with less than 255
	bytes of length of the pass.
-s ON OFF	Enable/Disable Manager Report (SNMP).
	ON : Enable OFF : Disable
-d <delip></delip>	It removes SNMP Trap Destination IP address.
	It leaves the half size space and can remove IP addresses more than two at
	the same time.
-d <allip></allip>	It removes all SNMP Trap Destination IP address.
-a <addip></addip>	It adds SNMP Trap Destination IP address.
	It leaves the half size space and can add IP addresses more than two at the
	same time. It can appoint up to 255 IP addresses.
-t ON OFF	Enable/Disable Manager (TCP_IP In-Band).
	ON : Enable OFF : Disable
-i <ip></ip>	It set Manager (TCP_IP In-Band) IP address.
-p <port></port>	Port Number of Manager (TCP_IP In-Band). Open ports through your access
	limit to allow access to localhosts.
-0 ON OFF	Enable/Disable the shutdown setting.
	ON : Enable OFF : Disable
-f <filename></filename>	It appoint a Placement File and do various setting according to the contents of
	mention in reading, a file. It mentions it later about Placement File.
	The return value repays 0 (success) to take it as success when it was able to
	read a Placement File even if option appointed in a Placement File is unjust.
-P	It is listed setting contents. It is necessary restart of NEC ESMPRO Agent
	service to reflect the setting that you executed by esmamset command in
	working NEC ESMPRO Agent.
-h	It display help (Usage :).

Placement File

It point to the text file that contents to appoint with [OPTION] were listed in. It has the same things when it appointed [OPTION] by it appoint a placement file with -f option, and reading it. The placement file lists it in a form of keyname "value". Put a blank (space or tab) between keyname and the double quote ("). In addition, be careful so that a newline code becomes Linux newline code (LF). At the time of text file stored in Windows newline code (CR+LF), it cannot read the contents of the placement file definitely. Refer to a list shown below for the explanation of keyname.

keyname(Capital letter)	Explanation
RACKNAME	It is the same as -r option.
COMMUNITY	It is the same as -c option.
SYSLOG-MONITOR-INTERVAL	It is the same as -mi option.
CUSTOM-MONITORING-OBJECT	It is the same as -cmo option.
FILE-MONITORING-OBJECT	It is the same as -fmo option.

keyname(Capital letter)	Explanation
SNMP	It is the same as -s option.
DELIP	It is the same as -d option.
ADDIP	It is the same as -a option.
IN-BAND	It is the same as -t option.
IN-BANDIP	It is the same as -i option.
IN-BANDPORT	It is the same as -p option.
SHUTDOWN	It is the same as -o option.

Return value

The return values of esmamset command are as follows.

Return value	Explanation
0	It succeeded in setting.
1	It failed in setting. Confirm appointed option.
2	It failed in setting. Install NEC ESMPRO Agent.
4	It failed in setting. A user logging in does not have the practice authority of the
	command.

Error Message

The error message is as follows.

Message	Explanation	Return value
Usage:	Display HELP information.	0
%s: Setting succeed!	Setting success, "%s" is name of appointed	0
	item.	
%s: Setting failed!	Setting failed, "%s" is name of appointed	1
	item.	
System Error!	System error outbreak.	1
Usage:	An option does not exist.	1
Please input a valid rackname	Cannot acquire a parameter of "-r"	1
after "-r" option (length<=63).	(rackname) or rackname exceeds max length	
	(63 byte).	
Please input a valid community	Cannot acquire a parameter of "-c"	1
after "-c" option (length<=33).	(community) or community exceeds max	
	length (33 byte).	
[%s] was not found in snmpd.conf	There is not the input community in	1
file! The community [%s] must be	snmpd.conf.	
set in snmpd.conf file.	"%s" is the input community.	
Please input number range from	Cannot acquire a parameter of "-mi" (Monitor	1
10 to 3600 after "mi" option	Interval) or an appointed value is invalid.	
(Monitor Interval).		
Please input a readable file's	Cannot acquire a parameter of "-cmo"	1
name after "cmo" option with	(Custom Monitoring Object). It is necessary	
full path (length<=255). And	the full pass and reading authority of Custom	
cannot be set	Monitoring Object.	
"/var/log/messages".	Or filename exceeds max length (255 byte).	
	And cannot be set "/var/log/messages".	

Message	Explanation	Return value
Please input a readable file's	Cannot acquire a parameter of "-fmo" (File	1
name after "fmo" option with	Monitoring Object). It is necessary the full	
full path (length<=255). And	pass and reading authority of File Monitoring	
cannot be set	Object.	
"/var/log/messages".	Or filename exceeds max length (255 byte).	
	And cannot be set "/var/log/messages".	
The filenames of "File	File Monitoring Object (-fmo) and Custom	1
Monitoring Object "(fmo) and	Monitoring Object (-cmo) have to appoint a	
"Custom Monitoring Object	different file.	
"(cmo) must be different.		
Please input ON or OFF after	Cannot acquire a parameter of "-s" (SNMP)	1
"-s" option (SNMP).	or a value except ON/OFF is set.	
Please input valid IP address	An IP address to delete is not appointed. It is	1
after "-d" option (SNMP).	failed by the acquisition of the parameter of	
	"-d".	
Please input valid IP address	An IP address to add is not appointed. It is	1
after "-a" option (SNMP).	failed by the acquisition of the parameter of	
	"-a".	
Please input ON or OFF after	Cannot acquire a parameter of "-t" (TCP_IP	1
"-t" option (TCP_IP In-Band).	In-Band) or a value except ON/OFF is set.	
Please input valid IP address	Cannot acquire a parameter of "-i" (TCP_IP	1
after "-i" option (TCP_IP	In-Band) or unjust IP address.	
In-Band).		
Please input a port number range	Cannot acquire a parameter of "-p" (TCP_IP	1
from 6001 to 65535 after "-p"	In-Band) or an appointed port number is	
option (TCP_IP In-Band).	different from a settable range (from 6001 to	
	65535).	
Please input ON or OFF after	Cannot acquire a parameter of "-o"	1
"-o" option (Shutdown Delay).	(Shutdown Delay) or a value except ON/OFF	
	is set.	
Please input a config file after	Placement File is not appointed. It is failed by	1
"-f" option.	the acquisition of the parameter of "-f".	
Access %s failed!	Cannot access a file, "%s" is name of	1
	Placement File.	
Skip the line in setting file,	Placement File has a problem. "%d" is line	1
lineno=%d.	number of Placement File.	
Please install	NEC ESMPRO Agent is not installed.	2
ESMPRO/ServerAgent.		
Please change to root user.	It is not root user to execute this tool.	4

2.2. esmsysrep command

Functions

By esmsysrep command, it can set the following.

- 1) Adding of Syslog Monitoring Event.
- 2) Setting of Syslog Monitoring Event.
- 3) Deleting of Syslog Monitoring Event.

Settings

The usage of esmsysrep command is as follows.

It is necessary restart of NEC ESMPRO Agent service to reflect the setting that you executed by esmsysrep command in working NEC ESMPRO Agent.

```
# cd /opt/nec/esmpro sa/tools/
```

- # ./esmsysrep [ACTION] [SOURCE] [EVENT] [OPTION]
- # /opt/nec/esmpro_sa/bin/ESMRestart

```
Usage:
```

```
esmsysrep --add -S <sourcename> -E <eventid> -K <keyword1> [OPTION]...
 esmsysrep --mod -S <sourcename> -E <eventid> [-K <keyword1>] [OPTION]...
 esmsysrep --del -S <sourcename> -E <eventid>
 esmsysrep --list
 esmsysrep --help
Action-selection option and specification:
--help Show this help message
--list List all event id's information
--add Add an event id
--mod Change the configuration of event id
--del
       Delete an event id
Common option and specification:
-S <sourcename>
                 Specify the source name
-E <eventid>
                Specify the event id
-K,-1 <keyword1> Specify the first keyword, and the argument of
                -K will be used if -1 and -K are both specified.
                It can't be omitted when --add is specified.
Other options (defaults in [ ] will be used if the options are not specified in
--add):
-2 <keyword2>
                 Specify the second keyword. [""]
-3 <keyword3>
                 Specify the third keyword. [""]
-s <ON|OFF>
                 Set ON/OFF of the SNMP report method. [ON]
-i <ON|OFF>
                  Set ON/OFF of the TCP/IP IN-BAND report method. [OFF]
```

-0	<on off="" =""></on>	Set ON/OFF of the TCP/IP OUT-OF-BAND report method. [OFF]
-t	<trapname></trapname>	Set the trap name. [""]
-d	<dealmethod></dealmethod>	Set the deal method. [""]
-w	<watchtime></watchtime>	Set the watch time. ["0-24"]
-c	<reportcount></reportcount>	Set the report count. [1]
-r	<none shutdown="" td="" ="" <=""><td>REBOOT> Set the action after a report. [NONE]</td></none>	REBOOT> Set the action after a report. [NONE]

Command use example

```
# ./esmsysrep --add -S TESTSOURCE -E 80001234 -K test1234 -t "Report of TEST"
```

```
# /opt/nec/esmpro_sa/bin/ESMRestart
```

In the example above,

- It add event ID of "80001234" to source "TESTSOURCE" newly.
- When character string "test1234" is recorded, after NEC ESMPRO Agent service or the reboot of the system, detect it in syslog (/var/log/messages) by Syslog Monitoring function; it report event ID:80001234 in SNMP report.
- The trap name to display with AlertViewer becomes "Report of TEST".

[ACTION] Designation

It appoints the following options. It cannot omit it. In addition, it cannot appoint plural options at the same time.

Option	Explanation
add	Adding of Syslog Monitoring Event.
mod	Setting of Syslog Monitoring Event.
del	Deleting of Syslog Monitoring Event.
list	Output Syslog Event List in CSV format (Comma Separated Value). "Source","EventID","KeyWord1","KeyWord2","KeyWord3","Manager","ALIVE(A LIVELevel)","TrapName","DealMethod","WatchTime","ReportCount","AfterRep ort"
Source	It displays "Source" in AlertViewer of NEC ESMPRO Manager.
EventID	It displays "Event ID" in AlertViewer of NEC ESMPRO Manager.
KeyWord1	It displays "KeyWord1" which is targeted for a report of Syslog Monitoring Event.
KeyWord2	It displays "KeyWord2" which is targeted for a report of Syslog Monitoring Event.
KeyWord3	It displays "KeyWord3" which is targeted for a report of Syslog Monitoring Event.
Manager	It displays Enable/Disable Manager (SNMP). ON : Enable OFF : Disable
ALIVE	It displays Enable/Disable Manager (Express Report).
(ALIVELevel)	ON : Enable OFF : Disable
	(It displays "ALIVELevel".)
TrapName	It displays "TrapName" in AlertViewer of NEC ESMPRO Manager.
DealMethod	It displays "DealMethod" in AlertViewer of NEC ESMPRO Manager.
WatchTime	It displays monitoring time.
ReportCount	It displays the outbreak number of times of the applicable event necessary for a

Option	Explanation
	report in the monitoring time with a number of 1 to 65535.
AfterReport	It displays an action after report.
	("NONE", "SHUTDOWN" or "REBOOT")
help	It display help (Usage :).

[SOURCE] Designation

It appoints the following options. It cannot omit it.

Option	Explanation
-S <sourcename></sourcename>	It appoint a source name targeted for [ACTION] by the capital letter of the half
	size alphanumeric character.

[EVENT] Designation

It appoints the following options. It cannot omit it.

Option	Explanation				
-E <eventid></eventid>	When a Syslog event is added, it appoint event ID targeted for ACTION with the				
	hexadecimal eight columns. Specify Event ID by 8 alphanumeric characters				
	(hexadecimal number) according to the following naming rule of event ID. The				
	format of Event ID is "x0000yyy". (For example: 40000101, 800002AB,				
	C0000101)				
	Select one as follows, and set it in "x":				
	4: Specifies events about information.				
	The color of the icon displayed in AlertViewer is green.				
	8: Specifies events about warning.				
	The color of the icon displayed in AlertViewer is yellow.				
	C: Specifies events about abnormalities.				
	The color of the icon displayed in AlertViewer is red.				
	Set an arbitrary hexadecimal number to "yyy". Range is 0x001 to 0xFFF.				

[OPTION] Designation

It appoints the following options. It can appoint plural options at the same time.

If a blank is included in a value to set, add " (double quotation mark) to front and back.

Option	Explanation		
-K <keywordl></keywordl>	It set the keyword1. It can use it to 256 bytes. When it appointed -K and -1 at the		
-1 <keyword1></keyword1>	same time, contents of -K are set. It cannot omit		
	[ACTION] at the time ofadd.		
-2 <keyword2></keyword2>	It set the keyword2. It can use it to 256 bytes.		
	[ACTION] at the time ofadd, a default is "" (blank).		
-3 <keyword3></keyword3>	It set the keyword3. It can use it to 256 bytes.		
	[ACTION] at the time ofadd, a default is "" (blank).		
-s ON OFF	Enable/Disable Manager Report (SNMP).		
	ON : Enable		
	OFF : Disable		
-i ON OFF	Enable/Disable Manager (TCP_IP In-Band).		
	ON : Enable		
	OFF : Disable		

Option	Explanation				
-o ON OFF	Enable/Disable Manager (TCP_IP Out-of-Band).				
	ON : Enable				
	OFF : Disable				
-t <trapname></trapname>	It set the trap name. It can use it to 79 bytes.				
	[ACTION] at the time ofadd, a default is "" (blank).				
-d <dealmethod></dealmethod>	It set the dealmethod. It can use it to 507 bytes.				
	[ACTION] at the time ofadd, a default is "" (blank).				
-w <watchtime></watchtime>	It set watch time. When it appoint a plural number, it set it at comma (,) end.				
	[ACTION] at the time ofadd, a default is "0^24".				
-c	It set the report count (1 to 65535).				
<reportcount></reportcount>	[ACTION] at the time ofadd, a default is "1".				
-r	It set the Action After Report. <action> sets any of the following.</action>				
<none shutdown="" th="" ="" <=""><th colspan="2">NONE</th></none>	NONE				
	SHUTDOWN				
REBOOT>	REBOOT				
	[ACTION] at the time ofadd, a default is "NONE".				

Return value

The return values of esmsysrep command are as follows.

Return value	Explanation
0	It succeeded in setting.
Other than 0	It failed in setting. Refer to error message (following chapter) for the details.

Error message

The error message is as follows.

Message	Explanation	Return value
Only root can execute the tool.	A login user does not have an execute	1
	authority.	
<name of="" proccess="">: error while loading</name>	NEC ESMPRO Agent is not installed.	127
shared libraries: <path liblary="" of=""> cannot</path>		
open shared object file: No such file or		
directory		
parameter error : [OPTION] is not	When It cannot omit [OPTION], it is not	1
specified.	specified.	
parameter error : argument of [OPTION]	The character string of the parameter of	1
is too long.	[OPTION] is too long.	
parameter error : argument of [OPTION]	The character string of the parameter of	1
is too short.	[OPTION] is too short.	
parameter error : argument of [OPTION]	The parameter of [OPTION] is invalid.	1
is invalid.		
parameter error : option [OPTION]	The parameter of [OPTION] is not specified.	1
requires an argument.		
parameter error : invalid option	The option of [OPTION] is invalid.	1
[OPTION].		
parameter error : [OPTION].	[OPTION] is unjust.	1
Can't make all of the keywords empty.	All the keywords become the blank when they	1

Message	Explanation	Return value
	reflect setting of "mod".	
Can't access " <sourcename>", which</sourcename>	Cannot set appointed sourcename with this	1
isn't the object source of this tool.	tool.	
ESMntserver service is not started.	ESMntserver service is not started.	1
Other program is accessing the syslog	Because other programs such as ESMamsadm	1
events setting.	access to Syslog Event Setting, cannot access	
	it.	
" <sourcename>/<eventid>" already</eventid></sourcename>	Sourcename / Event ID which "add"	1
exists.	appointed has already existed.	
" <sourcename>/<eventid>" doesn't</eventid></sourcename>	Sourcename / Event ID which "mod" or "del"	1
exist.	appointed does not exist.	
Access " <sourcename>/<eventid>"</eventid></sourcename>	[ACTION] is failed.	1
failed.		



NEC ESMPRO Agent Ver. 4.6

This chapter explains notes of NEC ESMPRO Agent.

- 1. NEC ESMPRO Agent
- 2. SUSE Linux Enterprise Server
- 3. Red Hat Enterprise Linux

When it does not list Update and Service Pack of OS, a version in "Requirements", it becomes a target to depend on Update and SP, the version.

I. NEC ESMPRO Agent

It is instructions about NEC ESMPRO Agent it does not depend on OS or become the same phenomenon by the plural OS.

Specifications of NEC ESMPRO Agent

At the time of the system or service start, ESMsmsrv service sometimes stops.

Requirements: NEC ESMPRO Agent all versions.

Description: NEC ESMPRO Agent acquires information of the hardware using OpenIPMI driver or Server Management Driver from Baseboard Management Controller(BMC).

When software accessing BMC any place other than NEC ESMPRO Agent exists, competition occurs, and ESMsmsrv service sometimes stops. In addition, competition becomes easy to occur to become the movement to access all SDR data when time and the Sensor Data Record(SDR) which Agent started for the first time are updated.

In us, I confirm that competition occurs by processing and processing of ipmiutil when NEC ESMPRO Agent accesses all SDR in the device which there are a lot of sensors. ESMsmsrv service stops then, but the handling of ipmiutil is completed. Therefore the competition does not occur when next ESMsmsrv service starts.

When software accessing BMC any place other than NEC ESMPRO Agent is used, you would like enough evaluations after enforcement to start use.

Solution: Execute the following commands and reboot service of NEC ESMPRO Agent.

/opt/nec/esmpro_sa/bin/ESMRestart

When NMI button is pushed, a message is sometimes recorded in a syslog.

Requirements: NEC ESMPRO Agent all versions.

Description: When NMI button is pushed, by a handling of ESMsmsrv timing, a message may be recorded in a syslog.

test-host ESMsmsrv: ###ERR###RPC###: RPC: Program not registered.

Solution: Phenomenon to occur when a system stops with NMI button, movement at the time of the next OS start does not have the influence.

When it is cleared SEL by other products, SEL cannot sometimes report it.

Requirements: NEC ESMPRO Agent all versions which uses OpenIPMI

Description: NEC ESMPRO Agent confirms whether there is not a record of new SEL every one minute. When it is cleared SEL for next one minute before confirming it by other products after NEC ESMPRO Agent confirmed, SEL which NEC ESMPRO Agent does not read is cleared and cannot report it. **Solution**: Be careful not to clear SEL from other products.

When it was unmounted, it sometimes misdetects space capacity of the file system. When it was unmounted, it sometimes becomes 100% of CPU utilization of ESMfilesys.

Requirements: Linux OS

Description: File System Monitoring function confirms a mount point every monitoring interval and, using the statfs() function that is the function of OS, acquires file system information.

- 1) Confirm a mount point.
- 2) Acquire information using statfs() function for the cause at a mount point.

When a mount point was unmounted between things of 1) and 2) mentioned above, we confirmed that the file system information of the mount point in the high rank was returned not error from statfs() function.

1) Confirm a mount point (/hoge).

-> /hoge is unmounted.

2) Acquire information using statfs() function for the cause at a mount point (/hoge).

-> As for the quantity of space capacity/whole aspect, information of higher / is repaid.

Solution: There are following two points.

When a file system monitoring function detected a new mount point, it prevents false detection by changing default value not to monitoring file system. Change from Control Panel to setting to monitor. <Setting Method>

- 1) Log in to the system as the root user.
- 2) Stop File System Monitoring service by the following commands temporarily.

[Case except Red Hat Enterprise Linux 7]

/etc/rc.d/init.d/ESMfilesys stop

[Case of Red Hat Enterprise Linux 7]

- # systemctl stop ESMfilesys.service
- 3) Move to /opt/nec/esmpro_sa/data/ directory.
 - # cd /opt/nec/esmpro_sa/data/
- 4) Back up the configuration file of File System Monitoring just to make sure.

cp esmfs.inf esmfs.org

5) Change the fourth line ThSwitchDef of esmfs.inf as follows.

[Before] ThSwitchDef=1

[After] ThSwitchDef=0

6) Start File System Monitoring service by the following commands.

```
[Case except Red Hat Enterprise Linux 7]
```

/etc/rc.d/init.d/ESMfilesys start

[Case of Red Hat Enterprise Linux 7]

systemctl start ESMfilesys.service

Stop File System Monitoring at the time of unmount temporarily. <Setting Method>

1) Log in to the system as the root user.

2) Stop File System Monitoring service by the following commands temporarily.

```
[Case except Red Hat Enterprise Linux 7]
```

/etc/rc.d/init.d/ESMfilesys stop

- [Case of Red Hat Enterprise Linux 7]
- # systemctl stop ESMfilesys.service
- 3) Carry out unmount of the file system.
- 4) Start File System Monitoring service by the following commands.
 - [Case except Red Hat Enterprise Linux 7]
 - # /etc/rc.d/init.d/ESMfilesys start
 - [Case of Red Hat Enterprise Linux 7]
 - # systemctl start ESMfilesys.service

The threshold of File System Monitor becomes default value when it reboots system or service.

Requirements: NEC ESMPRO Agent all versions.

Description: The mount point that is not mounted when file system monitoring service started deletes the setting to be off a monitor object. It is mounted, and setting becomes default value afterwards to recognize it to be a new mount point when file system monitor service detected it.

<Executed example after the system start >

(auto) mount [point A] (It use setting before the system start.)

Start of File System Monitor service. (Check the mount point.)

It detect mount [point A], and setting it is continuation use.

It not detect mount [point B], and setting it is delete. The monitor is not intended.

(auto) mount [point B]

Next monitor interval of File System Monitoring service. Check the mount point.

It detect mount [point B], and setting it is a default value. New mount point and recognition.

Evasion: [Previous preparations]

Make setting not to automatically start file system monitoring service (ESMfilesys)

```
[Case except Red Hat Enterprise Linux 7]
```

chkconfig ESMfilesys off

[Case of Red Hat Enterprise Linux 7]

systemctl disable ESMfilesys.service

A system starts and starts file system monitoring service after having mounted it entirely.

```
[Case except Red Hat Enterprise Linux 7]
# /etc/rc.d/init.d/ESMfilesys start
[Case of Red Hat Enterprise Linux 7]
# systemctl start ESMfilesys.service
```

It is instructions when you use NEC ESMPRO Agent on the host OS of the virtualization environment.

Requirements: The host OS of Virtualization. (Red Hat Enterprise Linux KVM...)

Description: When consecutive use detected dangerous obstacle information, NEC ESMPRO Agent shuts down the system by the setting of default. Unexpected shut down would occur from the guest OS so that a service console shut it down without the guest OS being shut down in the environment that operated the guest OS imagination in environment. When it is made much of the normal end of the guest OS, you invalidate a shutdown function by the report from NEC ESMPRO Agent and ask to shut it down from the guest OS by manual operation at the time of the obstacle outbreak.

Solution: [The setting procedure of the shutdown function by the report.]

- 1) Log in to the system as the root user.
- 2) ESMamsadm moves to a stored directory.

cd /opt/nec/esmpro_sa/bin/

3) Start Control Panel (ESMamsadm).

./ESMamsadm

- 4) Select "Base Setting" on Control Panel (ESMamsadm) and [Base Setting] screen opens.
- 5) Choose "the time setting to a shutdown start" among the other setting of [Base Setting] screen.
- 6) Invalidate report means availability. (I exclude a '*' check of [Enable the function].)

7) Press "OK".

It is instructions about the portmap (or rpcbind).

Requirements: Linux OS.

Description: It uses a function of portmap (or rpcbind) in NEC ESMPRO Agent. When a stop and reboot of portmap (or rpcbind) were performed during NEC ESMPRO Agent use, NEC ESMPRO Agent cannot work normally.

Solution: Execute the following command so that NEC ESMPRO Agent restarts.

/opt/nec/esmpro_sa/bin/ESMRestart

There is time when the message of NEC ESMPRO Agent is recorded in a syslog at the time of the system or service stop.

Requirements: NEC ESMPRO Agent all versions.

Description: There is time when the following messages are recorded in a syslog at the time of the system stop. The part of "XXXXX" represents alphanumeric characters.

###ERR###RPC###: RPC XXXXX

Solution: It is a phenomenon to occur in dlclose function calling for only at the time of shut down. There is not the influence for a monitor function of NEC ESMPRO Agent.

There is time when the message of ESMamvmain is recorded in a syslog at the time of the system or service stop.

Requirements: NEC ESMPRO Agent all versions working on the 64 bits Linux OS.

Description: ESMamvmain service closes a file at the time of a stop, but, by a timing, segfault occurs in function (dlclose). In addition, in a syslog, general protection may be recorded, too. The value indicating PID and the address varies according to the situation.

```
kernel: ESMamvmain[0000] general protection rip:000000000 rsp:00000000 error:0
kernel: ESMamvmain[0000]: segfault at 0000000000000 rip 0000000000000 rsp
0000000000000 error 0
```

Solution: It is a phenomenon to occur in dlclose function calling for only at the time of shut down. There is not the influence for a monitor function of NEC ESMPRO Agent.

There is time when message of pidof is recorded in a syslog at the time of the system or service stop.

Requirements: NEC ESMPRO Agent all versions working on the 64 bits Linux OS.

Description: NEC ESMPRO Agent has processing that uses the pidof of system command. When the load of the entire system is high, NEC ESMPRO Agent is not influenced to operation though the following messages might be registered in syslog. PID varies according to the situation.

pidof[0000]: can't read sid for pid 0000

Solution: There is not the influence for a monitor function of NEC ESMPRO Agent.

The delay of SNMP report or omission of SNMP report sometimes occurs.

Requirements: NEC ESMPRO Agent all versions.

Description: When you set update interval of server state / constitution information in the state that started NEC ESMPRO Manager more briefly than default setting (60 seconds), it may be the lost of report or the delay of report.

Solution: Apply it in the above for 60 seconds of default setting at the update interval of server state / constitution information. Or apply it to use a high reliability report (TCP/IP).

There is time when SNMP report delay at the time of OS start occurs.

Requirements: NEC ESMPRO Agent all versions.

Description: When the phenomenon of the report object occurred when there is not ready for the report at the time of OS start, it does re-try processing. There is time when it is reported after a re-try (5 minutes) when reported at the time of OS start by the timing when the phenomenon of the report object occurs. **Solution**: Confirm the message which is displayed after the above for 5 minutes to AlertViewer after OS started.

When report means of SNMP is not effective, there is the thing that SNMP report is transmitted.

Requirements: Linux OS.

Description: When the phenomenon of the report object occurred when there is not ready for the report at the time of OS start, it does re-try processing. When trap report ahead IP was set by a re-timing working to try it to handle a report regardless of report means (ON/OFF) of SNMP, report means of SNMP reports the re-try processing even at the time of OFF.

Solution: When you do not want to let you report it, set it after passing after OS start more than 5 minutes.

There is time when a message output or displayed in syslog for the run time of the obstacle information collection tool (collectsa.sh).

Description: When you run the obstacle information collection tool (collectsa.sh), following message is displayed in syslog, but these messages do not affect NEC ESMPRO Agent.

```
kernel: process 'sysctl' is using deprecated sysctl (syscall)
net.ipv6.neigh.vswif0.base_reachable_time; Use
net.ipv6.neigh.vswif0.base_reachable_time; Use
net.ipv6.neigh.vswif0.base_reachable_time; Use
net.ipv6.neigh.vswif0.base_reachable_time_ms instead.
kernel: process 'cp' is using deprecated sysctl (syscall)
net.ipv6.neigh.default.retrans_time; Use net.ipv6.neigh.default.retrans_time_ms
instead.
```

It is the warning indicating the name of the kernel parameter being changed. It is the message indicating having accessed the kernel parameter of the old name. It is not an error of the system, and it does not affect the system.

```
kernel: ACPI Error: No handler for Region [OEM2] (ffff88105999d780) [IPMI]
  (20090903/evregion-319)
kernel: ACPI Error: Region IPMI(7) has no handler (20090903/exfldio-295)
kernel: ACPI Error (psparse-0537): Method parse/execution failed [¥_SB_.PMI0._PMM]
  (Node ffff88105999f470), AE NOT EXIST
```

It is caused by the fact that it is copy all files (I include a subdirectory) of /sys/bus subordinates including "/sys/bus/acpi/devices/ACPI000D:00/power1_average". It is the message indicating the power supply management capability through the IPMI domain of the ACPI table not being available. It is not an error of the system, and it does not affect the system.

kernel: netlink: 12 bytes leftover after parsing attributes.

Data handed to a kernel by snmpd are the messages indicating 12byte being longer than a rule. It is not an error of the system, and it does not affect the system.

```
kernel: CPUFREQ: ondemand sampling_rate_max sysfs file is deprecated - used by: cp
kernel: CPUFREQ: Per core ondemand sysfs interface is deprecated - sampling_rate_max
kernel: CPUFREQ: Per core ondemand sysfs interface is deprecated - sampling_rate_min
kernel: CPUFREQ: Per core ondemand sysfs interface is deprecated - sampling_rate
kernel: CPUFREQ: Per core ondemand sysfs interface is deprecated - up_threshold
kernel: CPUFREQ: Per core ondemand sysfs interface is deprecated - ignore_nice_load
kernel: CPUFREQ: Per core ondemand sysfs interface is deprecated - ignore_nice_load
```

It is the message indicating having accessed the planned file abolished in the future of sys/devices/system/cpu/cpu0/cpufreq/ondemand/ subordinates. It is not an error of the system, and it does not affect the system.

kernel: mbox_read: Bad State
kernel: mbox read: Bad State

It is the message indicating having accessed the file of the /sys/class/scsi_host/hostX subordinates whom lpfc driver made. It is not an error of the system, and it does not affect the system.

warrning: command substitution: ignored null byte in input

collectsa.sh の処理の中で終端の文字列である'¥0'が変数に含まれると警告メッセージが表示されます。 メッセージの表示のみでシステムのエラーを示すものではなく、システムへの影響はなく、collectsa.sh の収 集機能にも影響はありません。

A report with WebSAM AlertManager needs registry registration to cooperate.

Requirements: NEC ESMPRO Agent all versions.

Description: When you let the event that you added by the setting of Syslog Monitoring Event cooperate with NEC ESMPRO Manager in WebSAM AlertManager, register the following registry with the machine which installed NEC ESMPRO Manager.

Solution: Set the following keys, a name and data with a Registry editor.

It is the name of the alert type that "xxxx" sets newly.

[HKEY_LOCAL_MACHINE¥SOFTWARE¥NEC¥NVBASE¥AlertViewer¥AlertType¥xxxx]

WavDefault=Server.wav

AniDefault=Default.bmp

Image=Default.bmp

SmallImage=Default.bmp

The source name which you set by Syslog Monitoring becomes the alert type.

A name, the right side is data the left side of a go board of "=" (an equal sign) (both, character string type).

For the key to alert type (~¥AlertType¥xxxx) that you added, you set the following access privileges.

Administrators	Full control
Everyone	Read Only
SYSTEM	Full control
ESMPRO User Group	Full control

ESMPRO User Group is a group name to manage the user with ESMPRO which you appointed at the time of NEC ESMPRO Manager Installation. It is the group name that a user appoints at the time of installation, but it

is stored to the following registry.

[HKEY_LOCAL_MACHINE¥SOFTWARE¥NEC¥NVBASE]

Name: LocalGroup

Specifications of packages in Linux OS

Memory consumption of NEC ESMPRO Agent sometimes increases.

Requirements: Red Hat Enterprise Linux 6. Even other OS's occur.

Description: When dlopen function loads two times of dynamic libraries and fails in loading of dynamic libraries, (32 + file name) byte memory leak occurs. When it succeeds in load two times of dynamic libraries, or when it fails in first loading of dynamic libraries, the memory leak occurs neither.

It confirm that memory increases because it do not leave the memory which the snmp_sess_init function of the libsnmp.so library included in the net-snmp-libs package secured by our evaluation open. A process and once and ten times, 100 times of result of a measurement (as for the unit, KB) is as follows.) that it use the snmp_sess_init function when it report it and use.

Process	1 times	Increment (KB)	10 times	Increment (KB)	50 times	Increment (KB)	100 times
ntagent	3636	876	4512	12	4524	16	4540
ESMamvmain	3320	212	3532	0	3532	4	3536
ESMcmn	5940	0	5940	0	5940	20	5960

Dozens of percent of increase is seen by ten times from this result, but it is with a little increase after it and confirms that memory consumption is not the phenomenon that continues increasing at the same size. However, please leave the memory open in end run when the memory consumption of the process becomes big.

Correction: Execute the following command so that NEC ESMPRO Agent re-starts.

/opt/nec/esmpro_sa/bin/ESMRestart

The display of NEC ESMPRO Manager

The state of the temperature / voltage / fan is unknown or a current value or number of revolutions is not displayed.

Requirements: The number of DIMM implementing is the server of the odd number.

Description: The sensor of the temperature / voltage / fan which does not have information such as a state, a current value, number of revolutions, the threshold by a model exists. Therefore it may be displayed as follows when you referred to an applicable sensor in NEC ESMPRO Manager.

- In [Information of server state/constitution] of NEC ESMPRO Manager, a state is displayed with "unknown".

- In [Information of server state/constitution] of NEC ESMPRO Manager, current value or number of revolutions is not displayed or it is displayed with "unknown".

Solution: It is influence only for display, and there is not the influence for a monitor function of NEC ESMPRO Agent.

There is time when storage is as warning after hard disk drive exchange.

Requirements: NEC ESMPRO Agent all versions.

Description: When you performed exchange and the addition of the hard disk drive, there is time when indication is not displayed definitely [Constitution Information] - [Storage].

Solution: Click "Constitution" tab and reload constitution information. In addition, when you do exchange and the addition of the hard disk drive, with reference to chapter 2 "5. Storage Monitoring", reset the information of exchange or addition the hard disk drive which is targeted for monitoring.

There is time to display plural [Constitution Information] - [Storage] - [CD-ROM] with a model equipped with a DVD combo drive.

Requirements: System kernel version 2.4 or later of a model equipped with a DVD combo drive. **Description**: This phenomenon occurs so that ide-scsi emulation is necessary when you use the note function of a writable optical drive of IDE connection in the 2.4 system kernel so that it is recognized by both IDE connection and SCSI connection.

Solution: Only under the influence that indication becomes the plural number, there is not the influence for a function of NEC ESMPRO Agent.

The transfer speed of the network is not sometimes displayed definitely.

Requirements: Linux OS.

Description: The transmission speed of the network might not be correctly displayed on [Constitution Information] - [Network], according to the specification of hardware and the specification of driver.
 Solution: It is influence only for display, and there is not the influence for a monitor function of NEC ESMPRO Agent.

Interface type of the network.

Requirements: Linux OS.

Description: The type of the network interface supported by NEC ESMPRO Manager is only Ethernet and Loopback. Other types of the network interface might not be correctly displayed.

MAC information of Niantic tip (LOM/10G-KR Mezz).

Requirements: Linux OS.

Description: [Constitution Information]-[Network]-[(interface name)]-[MAC] acquires from EtherLike-MIB which net-snmp makes and displays it. Because a part of MAC information does not exist in EtherLike-MIB mentioned above without handling of to acquire some information MAC information being implemented for the driver of Niantic tip, MAC information displaying with DataViewer of NEC ESMPRO Manager is not sometimes right.

Solution: It is influence only for display, and there is not the influence for a monitor function of NEC ESMPRO Agent.

Physical memory consumption.

Requirements: Linux OS.

Description: The physics memory consumption displaying with [Constitution Information] - [System] - [Memory] calculates contents of "/proc/meminfo" as follows.

Physics memory consumption = MemTotal - MemFree

This value includes Buffers and Cached. Therefore, a high value might be indicated by the situation of the system.

There is time when it is displayed if the connector shape of the serial port is unknown.

Requirements: SMBIOS Type8 Port Connector Information is a device of non-support. **Description**: The connector shape of a serial port displaying with [Constitution Information] - [I/O Device] displays information of SMBIOS Type8 Port Connector Information for the cause. If the connector shape of the serial port is unidentified, SMBIOS Type8 Port Connector Information displays it in a device of non-support. About support having SMBIOS Type8 or not, confirm whether the following information (type 8) is displayed by the practice result of the dmidecode command.

Handle 0x000C, DMI type 8, 9 bytes

Port Connector Information

Solution: It is influence only for display, and there is not the influence for a monitor function of NEC ESMPRO Agent.

Mouse information is not displayed.

Requirements: Linux OS.

Description: The mouse information displaying with [Constitution Information]-[I/O Device] regards the contents of the /etc/sysconfig/mouse file as origin of information. Therefore the mouse is not displayed when there is not a /etc/sysconfig/mouse file.

Solution: It is influence only for display, and there is not the influence for a monitor function of NEC ESMPRO Agent.

Vertical definition and the horizontal resolution and a pixel of the display adapter information are displayed with 0.

Requirements: Linux OS.

Description: Vertical definition and the horizontal resolution and a pixel of display adapter information displaying with [Constitution Information]-[I/O Device] are displayed with 0.

```
Vertical definition : 0 pixel
Horizontal resolution : 0 pixel
Pixel : 0 bit / pixel
```

OS supporting X-Windows has time when vertical definition and the horizontal resolution, a pixel are displayed when you logged in to X-Windows (virtual console is /dev/tty7 only).

Solution: It is influence only for display, and there is not the influence for a monitor function of NEC ESMPRO Agent.

About display of the hard disk drive information.

Requirements: Linux OS.

Description: The hard disk drive information displaying with [Constitution Information]-[Storage] is based on information of /proc/scsi/scsi, and there is time when the information that is different from real hardware is displayed. As example, the value that I acquired from a device (INQUIRY) is just set in the case of SCSI disk drive and RAID environment by Vendor, but, at the age of Serial-ATA disk drive, I follow the way of T10 SCSI/ATA translation, and character string called 'ATA ' is.

```
----
Host: scsi0 Channel: 00 Id: 00 Lun: 00
Vendor: ATA Model: SSDSA2SH064G1GC Rev: 445C
Type: Direct-Access ANSI SCSI revision: 05
```

2. SUSE Linux Enterprise Server

It is instructions about NEC ESMPRO Agent for SUSE Linux Enterprise Server.

When it does not mention Update and version of OS in "Requirements", it is object without depending on Update and a version.

Specifications of NEC ESMPRO Agent

It is sometimes displayed during upgrading installation with "..failed"

Requirements: SUSE Linux Enterprise Server.

Description: NEC ESMPRO Agent is sometimes displayed during upgrading installation with "..failed".

Because service of NEC ESMPRO Agent is carrying out processing, it is the message which is displayed when service cannot stop, but the upgrading (update of the file) of NEC ESMPRO Agent is carried out normally.

Solution: Display the message, and coping is unnecessary.

Cannot display the constitution information.

Requirements: SUSE Linux Enterprise Server.

Description: When you install/remove a device (fan or power supply unit) corresponding to the hot swap in the state that started NEC ESMPRO Manager, It can not update the state in NEC ESMPRO Agent.
Solution: When you install/remove a device (fan or power supply unit) corresponding to the hot swap, execute the following command and restart NEC ESMPRO Agent service.

/opt/nec/esmpro_sa/bin/ESMRestart

A file after syslog rotate does not become targeted for monitoring.

Requirements: SUSE Linux Enterprise Server.

messages

Description: "compress" is defined by /etc/logrotate.d/syslog, and a syslog becomes bzip2 file that the file name after it was done logrotate was compressed, monitoring of functioning does not become targeted for Syslog Monitoring. Therefore, in the timing when a syslog was backed up, omission of report may occur.

meeeugee	•
	←syslog is backed up
messages-YYYYMMDD.bz2	+
	***** ←can not monitoring
Syslog Monitoring (Monitoring Interva	al)+++
Solution : In /etc/logrotate.d/sys	slog, /var/log/messages make setting not to compress.
<before setting=""></before>	< after setting >
/var/log/warn	/var/log/warn
/var/log/messages	/var/log/allmessages

/var/log/allmessages
/var/log/localmessages
/var/log/firewall
/var/log/acpid
/var/log/NetworkManager {
 <u>compress</u>
 dateext

.....

/var/log/localmessages	
/var/log/firewall	
/var/log/acpid	
/var/log/NetworkManager	{
compress	
dateext	

/var/log/messages {
 dateext

There is time when ESMpowsw message is recorded in a syslog at the time of the system start.

Requirements: SUSE Linux Enterprise Server.

Description: There is time when the following messages are recorded in a syslog at the time of the system start.

ESMpowsw: ###ERR###RPC###: RPC: Port mapper failure - RPC: Success

When ESMpowsw service performed inside processing before ESMntserver service and OpenIPMI start, it is recorded.

Solution: There is not the influence for a monitor function of NEC ESMPRO Agent.

A phenomenon detected at the time of system start is not reported.

Requirements: SUSE Linux Enterprise Server.

Description: Because only /var/log/messages is targeted for monitoring as for Syslog Monitoring function of NEC ESMPRO Agent, it cannot watch the log output by /var/log/boot.msg. Therefore it cannot detect a phenomenon detected at the time of OS start by the cooperating software of the report function.

Solution: Log at the time of OS start comes to be output by /var/log/messages by stopping boot.klogd service in the following procedures and gets possible to report the phenomenon that the software reports it, and cooperate detected at the time of OS start from NEC ESMPRO Agent.

#insserv -r boot.crypto
#insserv -r boot.klog

Specifications of packages in Linux OS

Memory leak occurs when it uses specific API of net-snmp.

Requirements: SUSE Linux Enterprise Server 10 SP3.

Description: Memory leak occurs when it use following API of net-snmp. It is used by NEC ESMPRO Agent.

- snmp_sess_init

- snmp_open

When you use Local Polling function of NEC ESMPRO Manager, memory leak of ESMcmn of NEC ESMPRO Agent occurs.

Solution: It is degrade occurring in a version of net-snmp included in SUSE Linux Enterprise Server 10 SP3. It can evade a problem by applying the net-snmp package that a problem does not occur. You download the following packages, and apply these packages.

- x86 : <u>http://download.novell.com/Download?buildid=5VLiHe1PqvY~</u>

- x86_64 : http://download.novell.com/Download?buildid=Jg9Eta1qxts~

3. Red Hat Enterprise Linux

It is instructions about NEC ESMPRO Agent for Red Hat Enterprise Linux.

Specifications of NEC ESMPRO Agent Specifications of packages in Linux OS

CPU usage rate of OpenIPMI (kipmi0 process) will be sometimes 100%, and movement of NEC ESMPRO Agent is affected.

Requirements: Red Hat Enterprise Linux 6.

Description: NEC ESMPRO Agent accesses Baseboard Management Controller (BMC) via OpenIPMI (kipmi0) and offers a monitoring system.

The kipmi0 kernel helper thread sometimes goes to 100% CPU usage.

Once there, it remains at 100% until the next reboot. After a reboot, things return to normal and then, at a random time later, it goes to 100% again.

It includes the following influence because you can't access any more BMC when a phenomenon above-mentioned occurred.

- Hardware monitoring process (ESMsmsrv) sometimes stops.
- Hardware monitoring system by NEC ESMPRO Agent doesn't move.
- [Constitution Information] [System] isn't indicated
 - in NEC ESMPRO Manager. Or a gray out, it's done.
- Takes time for communication by SNMP with NEC ESMPRO Manager, and the server alert that is impossible of access may be registered.
- and the server alore that is impossible of access may be registere

Evation: There is no handle in NEC ESMPRO Agent.

Confirm BMC Firmware of model of the use.

http://www.58support.nec.co.jp/global/download/index.html

Solution: kipmi kernel helper thread kipmi0 is generating high CPU load https://access.redhat.com/solutions/21322

When SELinux is enabled, and when it executes that the obstacle information collection tool (collectsa.sh), the message records in a syslog.

Requirements: Red Hat Enterprise Linux 6.

Description: The obstacle information collection tool (collectsa.sh) collects the files of /proc subordinates. When SELinux is enabled, access to /proc subordinates is limited, and plural messages are recorded in a syslog.

SELinux is preventing cp ...

Solution: Files set a limit to access are not collected with this tool, but the movement of the OS does not have influence.

There is time when a lot of snmpd-related log are recorded in syslog.

Requirements: net-snmp-5.1.2-11.EL4.10 or later.

Description: Because NEC ESMPRO Agent uses SNMP, in net-snmp, a lot of following log are sometimes recorded to syslog(/var/log/messages).

snmpd[5824]: Connection from - 127.0.0.1

```
snmpd[5824]: transport socket = 12
```

snmpd[5824]: Received SNMP packet(s) from UDP: [127.0.0.1]:7023

After net-snmp-5.1.2-11.EL4.10, this is because log is output at INFO level.

Solution: It is output log at INFO level with the existing set price, but can limit it by appointing option to output only the log that is higher than NOTICE level.

- net-snmp-5.3.2.2-5.el5 or lower

[A setting method]

1) Reboot snmpd service after setting in /etc/snmp/snmpd.options in the following.

"OPTIONS=-LS e d -Lf /dev/null -p /var/run/snmpd.pid -a"

- net-snmp-5.3.2.2-5.el5 or later

[A setting method]

- Reboot snmpd service after setting in /etc/snmp/snmpd.conf in the following. dontLogTCPWrappersConnects yes
- 2) Reboot snmpd service after setting in /etc/snmp/snmpd.options in the following. OPTIONS="-Lsd -Lf /dev/null -p /var/run/snmpd.pid"

Reference: How to disable the excessive logging of snmpd in Red Hat Enterprise Linux System? https://access.redhat.com/site/solutions/3465



NEC ESMPRO Agent Ver. 4.5

Common Questions

This chapter explains common questions of NEC ESMPRO Agent.

In this chapter, it explains a common question about NEC ESMPRO Agent.

Fail in automatic discovery from NEC ESMPRO Manager.

Confirm the setting of the access limit.

When it watches NEC ESMPRO Agent from NEC ESMPRO Manager, you use the following ports. When an access limit is effective, make setting to admit access for the following ports.

snmp 161/udp snmp-trap 162/udp

Confirm that snmpd starts.

Check that running of snmpd.

- # ps ax | grep snmpd
- When snmpd starts, it is not necessary to do anything.
- When snmpd does not start, start snmpd. In addition, change start setting of snmpd as follows.

[Case except Red Hat Enterprise Linux 7]

- # /sbin/chkconfig --level 35 snmpd on
- # /etc/init.d/snmpd start

[Case of Red Hat Enterprise Linux 7]

- # systemctl enable snmpd.service
- # systemctl start snmpd.service

Confirm that rpcbind (or portmap) starts.

Because rpcbind starts in Red Hat Enterprise Linux 7 depending on ESMntserver, the setting is unnecessary. When setting of rpcbind is not displayed, it may use portmap. You read portmap for rpcbind, and confirm it.

- # ps ax | grep rpcbind
- When rpcbind starts, it is not necessary to do anything.
- When rpcbind does not start, start snmpd.
 - # /etc/init.d/rpcbind start

In addition, change start setting of snmpd as follows.

/sbin/chkconfig --level 35 rpcbind on

Confirm the setting of the community name to use in snmp.

Confirm whether the community name setting in NEC ESMPRO Agent accords with the community name which you set in snmpd.conf. The details of the setting method of the community name refer to chapter 2 "2. General Properties".

Confirm the contents of snmpd.conf.

Confirm whether there are the following descriptions to SNMP configuration file (snmpd.conf).

dlmod ntpass /opt/nec/esmpro_sa/lib/ntpass.so
ntpass .1.3.6.1.4.1.119.2.2.4.4
ntpass .1.3.6.1.2.1.10.7

Because NEC ESMPRO Agent supports SNMP demand of ESMPRO MIB and EthernetLike MIB, the content mentioned above is setting information to write in at snmpd.conf when you installed NEC ESMPRO Agent. When these descriptions do not exist, you reboot snmpd after a description It is thought that the cause that there is not a description reinstallation of snmpd or updated snmpd after NEC ESMPRO Agent installation.

Confirm registered setting.

Confirm a server name, IP address registered with tree view of NEC ESMPRO Manager. Confirm it whether "the machine name" of a server registered or "IP address" does not overlap with a "machine name" "IP address" of the server which you are going to register. When these are piled up, you cannot register.

Confirm the contents of the /etc/hosts.deny, /etc/hosts.allow files.

Confirm the setting contents of /etc/hosts.deny and the /etc/hosts.allow file. When you set the principle prohibition in /etc/hosts.deny, make setting to admit access for snmpd in /etc/hosts.allow file.

Confirm the setting situation of SELinux.

If setting of SELinux is not "Disabled", change to "Disabled".

- 1) Log in to the service console as the root user account.
- 2) Confirm current setting of SELinux.
 - Case of disabled, displayed as follows.

getenforce

Disabled

- Case of enable, displayed as follows.

getenforce

Enforcing

- Case of displayed to warning, displayed as follows.

getenforce

Permissive

In the case of enabled, execute the following command:

3) Open /etc/sysconfig/selinux by an editor and look for the following lines.

SELINUX=<current setting>

- 4) Edit the line mentioned above and save a file.
 - Case of Disabled, edit as follows.

SELINUX=disabled

- Case of Enforcing, edit as follows.

SELINUX=enforcing

- Case of Permissive, edit as follows.

SELINUX=permissive

- 5) Restart the system.
 - # reboot

Fail in setting of the threshold from NEC ESMPRO Manager.

Confirm the contents of snmpd.conf.

When it set it from NEC ESMPRO Manager, note authority of SNMP is necessary. Confirm whether a definition of snmpd.conf is given write authority.



access notConfigGroup "" any noauth exact all all none

Example 2)

```
#rocommunity public default
rwcommunity public default
```

An ESMPRO-related message is recorded to a syslog, and the start of OS takes time.

The possibility that the port which portmap (or rpcbind) is not started as for the cause that the following message is displayed or Agent uses is not thrown open is thought about.

###ERR### Please check /opt/nec/esmpro_sa/work/ESMntserver.ready or fopen is
failed (errno:2)

Confirm the following.

- The portmap (or rpcbind) started.
- It confirms contents of /etc/sysconfig/iptables.

There is setting to admit communication to loopback interface to be used in the communication between the programs in the system, or please confirm it. When it does not use access control, it does not have any problem.

Example) - A INPUT - i lo - j ACCEPT

- It confirms contents of /etc/hosts.deny and /etc/hosts.allow.

For /etc/hosts.allow, it confirms whether there is setting to admit loop-back address. Example) ALL:localhost

Question about Control Panel (ESMagntconf, ESMamsadm).

Control Panel cannot start.

It is necessary to carry it out for start of the Control Panel in root user. Confirm the practice authority of a user logging in.

Example:[root@localhost bin]# The Control Panel can start.
[admin@localhost bin]\$ The Control Panel cannot start.

Control Panel cannot start.

The required package varies according to distribution and a version. You confirm a required package of NEC ESMPRO Agent, and the package which NEC ESMPRO Agent needs for movement confirm whether it is installed. The required package of NEC ESMPRO Agent shows it for a document of NEC ESMPRO Agent.

Question about the service of NEC ESMPRO Agent.

Let me do a stop and start by a lump by service of NEC ESMPRO Agent.

Login to the system as the root user, and execute ESMRestart command.

[When you stop it]

Appoint "stop" in argument, and execute ESMRestart command.

/opt/nec/esmpro_sa/bin/ESMRestart stop

[When you start it]

Appoint "start" in argument, and execute ESMRestart command.

/opt/nec/esmpro_sa/bin/ESMRestart start

[When you restart it]

Execute ESMRestart command.

/opt/nec/esmpro sa/bin/ESMRestart

snmpd does not start or stop.

Teach the information about a function and specifications of NEC ESMPRO Agent.

Is there the exclusion relevant file of the virus check.

The version of NEC ESMPRO Agent does not matter, and a scan, please be inapplicable in installation directory (/opt/nec/esmpro_sa) subordinates.

Reason:

There was the example that a file of NEC ESMPRO Agent was detected by a past inquiry as zip bomb by a scan of the virus measures software. The cause of the detection is because there is much number of the folder and the files after the thawing of the file in installation directory subordinates and does not have any problem.

In addition, when virus measures are soft and carry out an on access scan, file access becomes slow, and time suffers from the data acquisition and may be detected with server access inability.

When it perform a change of the time of the OS (push forward time or delay it), please tell me about influence to give NEC ESMPRO Agent.

When it perform a change of the time of the OS (push forward time or delay it), there is not the influence in NEC ESMPRO Agent.

Teach the port number that NEC ESMPRO Agent uses.

NEC ESMPRO Manager and NEC ESMPRO Agent use the following ports. If an access limit is placed between Manager and Agent, or if the access limit is enabled on your system, open the following ports. Refer to the following files for the port range.

/proc/sys/net/ipv4/ip_local_port_range

- E	Between Manager and Agent				
	Function	Agent (in)	Direction	Manager (out)	Note
	Auto Registration		\leftarrow	161/udp	snmp
	Server Monitoring (SNMP)	161/udp	\rightarrow		
	Report to Manager (SNMP)	Auto-assignment	\rightarrow	162/udp	snmp-trap
	Report to Manager		\rightarrow	31134/tcp	
	(TCP/IP in Band, TCP/IP Out-of-Band)	Auto-assignment	←		

*1 The upper direction shows the direction at start-up and the lower shows the return.

*2 For the setting of the port number for Report to Manager (TCP/IP in Band, Out-of-Band) is used as a report method.

*3 The opening examples of the port of the firewall are as follows.

Example) Red Hat Enterprise Linux 6

- # iptables -I INPUT -p udp --dport 161 -s <IP address of Manager> -j ACCEPT
- # iptables -I OUTPUT -p udp --dport 161 -j ACCEPT
- # iptables -I OUTPUT -p udp --dport 162 -j ACCEPT
- # iptables -I OUTPUT -p tcp --dport 31134 -j ACCEPT

Store setting.

service iptables save

When it does packet filtering setting using iptables or TCP Wrapper, it admits the access to these.

-	Agent	uses	internal	ports
	/ your	u303	micinai	poito

Function	Port
portmap (rpcbind)	111/tcp
	111/udp
NEC ESMPRO Agent	Auto-assignment

Teach Windows version of NEC ESMPRO Agent and a function difference share for Linux.

In NEC ESMPRO Agent for Linux, the following functions are non-support.

- Indication of the disk array information with Information of server state / constitution.

Support only a report function using Syslog Monitoring function by introducing RAID management utility.

Is the storage monitoring of RAID constitution possible?

A storage monitoring function of NEC ESMPRO Agent is support only for simple substance constitution, and the storage monitoring of RAID constitution is not possible. The storage monitoring of RAID constitution supports only a report function using Syslog Monitoring function by introducing RAID management utility.

Link Up/Down of NIC is not reported.

Because the network (LAN) monitoring of NEC ESMPRO Agent watches traffic, it cannot detect Link Up/Down of NIC. When a syslog (/var/log/messages) has a recorded message from the system in Link Up/Down of NIC, it can report it by adding Syslog Monitoring Event. But it may not be reported because Link is in condition not to be able to use a network at the age of being downed.

Teach information about the report of NEC ESMPRO Agent.

The report which it received in AlertViewer of NEC ESMPRO Manager is displayed as the unknown server or the server unlike the server which transmitted a trap.

<Specification of NEC ESMPRO Manager>

AlertViewer of NEC ESMPRO Manager searches IP address (AgentAddress field) transmitted by NEC ESMPRO Agent from the icon that it is registered with tree view of NEC ESMPRO Manager sequentially, it displays the host name that IP address was equal to first. IP address searches IP address registered with interface property.

<Specification of NEC ESMPRO Agent>

If own hostname is unestablished in /etc/hosts, NEC ESMPRO Agent acquires IP address of the origin of TRAP transmission using socket communication of UDP.

When IP address of a transmitted trap accorded with information registered with tree view of NEC ESMPRO Manager in 127.0.0.1, it may display the server which is different from the server which transmitted a trap. In addition, NEC ESMPRO Manager displays unknown server when it did not accord with information registered with GroupInformation.

The acquisition data of the gethostbyname() function in specification of NEC ESMPRO Agent and connection

of /etc/hosts, but all environment may not agree with the following to be affected by setting of /etc/host.conf. In the case of "server1", host name of above 1) lists the example which what kind of IP address acquires by contents of /etc/hosts.

[Example 1] The transmission former IP address of the trap is 127.0.0.1.

127.0.0.1	server1	localhost.localdomain localhost				
10.1.2.1	server1					
10.1.2.2	server2					
[Example 2] The transmission former IP address of the trap is 10.1.2.1.						
10.1.2.1	server1					
127.0.0.1	server1	localhost.localdomain localhost				
10.1.2.2	server2					
[Example 3] The transmission former IP address of the trap is 10.1.2.1.						
127.0.0.1	localhos	t.localdomain localhost				
10.1.2.1	server1					
10.1.2.2	server2					

Teach the message which NEC ESMPRO Agent records in a syslog.

Refer to "Report Message" of SNMP Trap List for the message which NEC ESMPRO Agent records in a syslog.

<Example>

Sep 13 07:46:26 test-host ESMamvmain: SRC:ESMCommonService, ID:80000065, MSG:The temperature has been exceeded the upper threshold (Warning). Sensor Number: 3 Location: system board 1 Temperature: 42 degrees C Threshold: 42 degrees C

The correspondence of the message mentioned above and SNMP Trap List is as follows.

SRC:ESMCommonService	= Source Name
ID:80000065	= Event ID
MSG:The temperature has	= Report Message

Teach facility and the priority of the message which NEC ESMPRO Agent records in a syslog

The priority is different from the facility of the message which NEC ESMPRO Agent records in a syslog by a version.

NEC ESMPRO Agent Ver.4.2 or later			Less than NEC ESMPRO Agent Ver.4.1		
	Information	facility : user	Information	facility : user	
		priority : info		priority : info	
	Warning	facility : user	Warning	facility : user	
		priority : warning		priority : info	
	Error	facility : user	Error	facility : user	
		priority : err		priority : info	

Teach SNMP version that NEC ESMPRO Agent supports.

SNMP version that NEC ESMPRO Agent supports is only SNMP v1. By the setting of snmpd.conf, the following wavy lines correspond.
[Extract of snmpd.conf]

#	groupName	securityMod	del securityName
group	notConfigGrou	p vl	notConfigUser
group	notConfigGrou	p v2c	notConfigUser

Teach a method that sort a source name and Event ID in ascending order and descending order, and to display.

The turn of the source name and the turn of Event ID use the readdir() function that is the system call of the kernel. Because it is repaid in inode numerical orders not file name order from readdir() function, and cannot display order in turn.

* inode number ... It is one of the management information of the file system and expresses ID number of the one idea.

Show the item with the need to set again when you changed setting.

Change the password of the user with the root authority.

- The item which changes setting of NEC ESMPRO Agent There is not the item changing setting.
- The item which changes setting of NEC ESMPRO Manager There is not the item changing setting.

Change the IP address of NEC ESMPRO Agent machine.

- The item which changes setting of NEC ESMPRO Agent There is not the item changing setting.
- The item which changes setting of NEC ESMPRO Manager Change IP address of NEC ESMPRO Agent icon registered on NEC ESMPRO Manager.

Change the host name of NEC ESMPRO Agent machine.

- The item which changes setting of NEC ESMPRO Agent

There is not the item changing setting.

- The item which changes setting of NEC ESMPRO Manager

Change the host name of NEC ESMPRO Agent icon registered on NEC ESMPRO Manager. You cannot refer to previous collection data when you change host name when you set statistics information automatic collection.

Change the file name of the following files to the host name after the change then.

- "Original host name".dat
- "Original host name".bak

Change the IP address of NEC ESMPRO Manager machine.

- The item which changes setting of NEC ESMPRO Agent

When you appoint IP Address of NEC ESMPRO Manager in a manager report (SNMP/TCP IP), change report setting from Control Panel (ESMamsadm) with reference to chapter 3 with less than it.

2.1.1. Base Setting of Manager (SNMP)

3.1.1. Address Setting when Manager (TCP_IP In-Band) is used as a report method

3.1.2. Address Setting when Manager (TCP_IP Out-of-Band) is used as a report method

In addition, change the setting of IP address when it limits the access by IP address with the following files for snmpd.

/etc/snmp/snmpd.conf

/etc/hosts.allow,

/etc/hosts.deny

- The item which changes setting of NEC ESMPRO Manager

When you use the communication between managers, change the setting of the unification viewer on NEC ESMPRO Manager machine and NEC ESMPRO Manager machine of a manager room communicating counterpart which changed IP address in the following procedures.

Choose follows among the menu of GroupInformation.

-> [Options]

-> [Customize]

-> [Remote Manager]

Change IP address of NEC ESMPRO Manager set to a screen to the new IP address.

Change the host name of NEC ESMPRO Manager machine.

- The item which changes setting of NEC ESMPRO Agent

When you appoint IP Address of NEC ESMPRO Manager in a manager report (TCP IP), change report setting from Control Panel (ESMamsadm) with reference to chapter 3 with less than it.

3.1.1. Address Setting when Manager (TCP_IP In-Band) is used as a report method

3.1.2. Address Setting when Manager (TCP_IP Out-of-Band) is used as a report method

In addition, change the setting of IP address when it limits the access by IP address with the following files for snmpd.

/etc/snmp/snmpd.conf
/etc/hosts.allow,
/etc/hosts.deny

- The item which changes setting of NEC ESMPRO Manager

There is not the item changing setting.

Change the domain.

- The item which changes setting of NEC ESMPRO Agent

There is not the item changing setting.

- The item which changes setting of NEC ESMPRO Manager

Because NEC ESMPRO Manager does not work normally when in a condition not to be able to access ESMPRO user group by changing the domain when you register ESMPRO user group as global group, warn him.

Change the MAC address (including the exchange of the network board).

- The item which changes setting of NEC ESMPRO Agent

There is not the item changing setting.

- The item which changes setting of NEC ESMPRO Manager

When it is used Remote Wake Up function of NEC ESMPRO Manager, you open property screen of the icon of the target server on tree view, and set the new MAC address in "RWU MAC address" of [function] tab.

Change the community name of SNMP.

- The item which changes setting of NEC ESMPRO Agent

- 1) Edit SNMP configuration file (/etc/snmp/snmpd.conf) and change the community name.
- 2) Change the community name in "SNMP Community" of "General Property" of Control Panel

(ESMagntconf).

- 3) SNMP Service or system restart.
- The item which changes setting of NEC ESMPRO Manager (Win GUI)
 - 1) Change the registration information about SNMP community name of the server.
 - 2) Change SNMP community (Get) and (Set) of property of a server icon enrolling in tree view.
 - 3) SNMP Service or system restart.
- The item which changes setting of NEC ESMPRO Manager (Web GUI)
 - 1) Change the registration information about SNMP community name of the server.
 - Change SNMP Community Name (Set) and SNMP Community Name (Get) in [Server setting] -[Connection Setting] - [Edit] of the server of WebUI.
 - 3) SNMP Service or system restart.

Question about the obstacle information collection tool (collectsa.sh).

When a problem occurs for movement of NEC ESMPRO Agent.

When a problem occurs for movement of NEC ESMPRO Agent, you collect information in the obstacle information collection tool (collectsa.sh), and, contact us.

- How to use the obstacle information collection tool (collectsa.sh)

- 1) Log in to the system as the root user.
- 2) Move to any directory.
- 3) Execute the obstacle information collection tool (collectsa.sh).
 # /opt/nec/esmpro_sa/tools/collectsa.sh
 Create collectsa.tgz in the current directory.
- 4) Contact us. According to the guidance in charge of us, provide collectsa.tgz.

When a problem occurs for movement of the obtacle information collection tool (collectsa.sh).

The case that the obtacle information collection tool (collectsa.sh) does not work definitely (not finished), you collect the information that has been collected, and, contact us.

- 1) Terminate the obtacle information collection tool (collectsa.sh).
 - 1-1) Press <Ctrl> and <C> key in a terminal execute the obtacle information collection tool (collectsa.sh).
 - 1-2) Check the obtacle information collection tool (collectsa.sh) was finished.
 - # ps aux | grep collectsa.sh |grep -v grep
 - For example, collectsa.sh is execute in a background when it is displayed as follows.
 - #root 11313 0.0 0.4 4196 1124 pts/0 T 14:46 0:00 /bin/bash ./collectsa.sh
 - 1-3) When it is executing in a background, you terminate a process.
 - # kill -9 {pid}
 - [example] # kill -9 11313
- 2) Compress "collectsa" directory which was created in the current directory in tgz.
 - # tar czvf collect_dir.tgz collectsa/
- 3) Contact us. According to the guidance in charge of us, provide collect_dir.tgz.

NEC Express Server

NEC ESMPRO Agent Ver.4.6 User's Guide (Linux)

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